



HOME LIFE IN FAR-AWAY LANDS



ATWOOD-THOMAS



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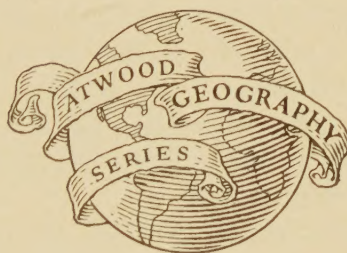
LEAVING PORT IN A DISTANT LAND

From the painting by N. C. Wyeth. Courtesy of the First National Bank of Boston

THE EARTH AND ITS PEOPLE · BOOK ONE

HOME LIFE IN FAR-AWAY LANDS

BY
WALLACE W. ATWOOD
AND
HELEN GOSS THOMAS



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FOREWORD TO THE TEACHER

This book is the first of a new series of geographies built on the single-cycle plan, and is designed to precede the study of the earth by continents, regions, and countries. It introduces pupils to geography through a succession of imaginary journeys to the homes of children in distant lands. The journeys are not an end in themselves, but a means of demonstrating the simpler relationships between man and the conditions of his natural environment.

Each place visited in the course of the journeys has been chosen for a specific purpose. Native life in Belgian Congo illustrates the response of primitive people to geographic conditions in the warm, moist lands of the tropics. The Baffin Island Eskimo, — probably as little affected by contact with the white man's civilization as any Eskimo group, — demonstrates how people adapt themselves to the rigorous conditions of subpolar environment. The Bedouin Arab typifies the nomadic life that must be lived in the warm deserts of the world.

The groups of people visited in Europe illustrate adaptation to varying conditions of location, surface, and climate in the temperate zone. The European journeys as a whole introduce pupils to the different kinds of farming by means of which so large a portion of mankind gets its living. All the places visited serve as type studies, paving the way for a better understanding of the regions and countries that are to be studied in the following years.

In the course of the imaginary journeys pupils become acquainted with physical features such as islands, bays, straits, mountains, and plains, visualizing them through

pictures and maps, and learning their meaning in terms of human significance. Thus all necessity for dull, meaningless memorization of geographic definitions is obviated. A special type of exercise called "Using new words" serves as a check by means of which the teacher may make sure that geographic terms are fully understood.

The authors believe firmly in the principle that pupils should constantly use acquired knowledge in the solution of new problems. Consequently, in each new place visited, there is frequent reference to things observed in other places, and the pupil is led to work out the cause-and-effect relationships which comprise the simpler principles of geography. The teacher will find it worth while to carry this method still further, leading pupils to compare things seen on the journeys with familiar details of their home environment.

The book contains a great variety of exercises and tests so motivated as to appeal to the pupil's interest and to challenge his natural pride in accomplishment. Each one is introduced where it serves a definite purpose, — either to sum up important facts learned or to serve as a starting-point for a new unit of study. All function as integral parts of the lessons, and none should be neglected.

The illustrations in the book are as much a part of the study as the text and the exercises, and should be accorded the same degree of attention. Every picture is provided with a legend, — descriptive, explanatory, or thought-provoking, as the case may be, — and each one is called to the pupil's notice at the point where it contributes to the visualization of the subject matter in hand. Thus picture study is made an integral part of the learning process.

The maps in the book are simple and graphic, and each one shows only those details which pupils need to use in connection with the lesson units. The map studies, though informal, are a definite part of the lesson development, and are of special importance in the learning process because they provide a means by which pupils may discover interesting and valuable facts for themselves.

The vocabulary of the book is simple, and every effort has been made to avoid reading difficulties. To insure this, the vocabulary has been checked by a graded word list worked out by Dr. B. R. Buckingham and Dr. E. W. Dolch. Wherever new words are introduced, they are explained clearly and simply, and through use they soon become a natural part of the pupil's vocabulary.

The authors are deeply indebted to all who have contributed to the making of this book. Competent critics have helped to insure the accuracy of details in the descriptions of the localities visited in the journeys. Many teachers have rendered valuable assistance

by constructive criticism of the pedagogical method. Among the latter are several who have tested parts of the book by schoolroom use. The authors are especially indebted to Miss Prudence Cutright, Director of Instructional Research for the Board of Education of Minneapolis, for guidance and assistance in the preparation of the exercises, tests, and reviews.

Thanks are due to the many individuals and groups of individuals who have furnished illustrations for the book, especially for those sections which treat of the more remote lands. Several pictures of the Bedouin Arabs were obtained from Pictorial Clubs, Inc., of New York, and are from a collection made by their photographers during a recent nine months' residence in Arabia. For the unusually fine pictures of the Baffin Island Eskimos grateful acknowledgment is made to Commander Donald B. MacMillan and to Revillon Frères of New York. For pictures of native life in Belgian Congo the authors are indebted to several foreign missionary societies.

WALLACE W. ATWOOD
HELEN GOSS THOMAS

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Planning Journeys to Far-Away Lands



Figure 1. Bombo and his home in the forest.

HOME LIFE IN FAR-AWAY LANDS

GETTING READY TO TRAVEL

THREE DIFFERENT KINDS OF HOMES

Bombo and his home. Bombo is the little boy whom you see in the picture on this page. He is standing in front of the house where he lives. Bombo's home is in a little village far away in the midst of a thick forest. Some of the trees had to be cut down to make room for the village.

You can tell that the picture was taken on a warm day, for Bombo is wearing very few clothes. If you should ask him what he wears in winter, you would find that he does not know what winter is. You see, Bombo lives in a part of the earth where it is hot the whole

year long. He never wears any more clothes than he has on in this picture.

Look at Bombo's house. It is so small that we should call it a hut instead of a house. It is made of thin pieces of wood and covered with a roof of leaves. Do leaves seem strange things to use for a roof? Bombo thinks they make a very good roof, for they are smooth and slippery, and the rain water runs off them quickly. In this warm land it rains very often and very hard, and the air is always damp.

Bombo does not stay in his house much. He sleeps there, but he eats out of doors. Sometimes he runs indoors when it rains, but he never has to go indoors to keep warm.



Figure 2. Nandla and his brother in front of their tupik.

Nandla and his home. Nandla lives in the Far North, where the cold north wind comes from. If you look carefully at the picture above, you will see that Nandla and his little brother are dressed in furs. You may be surprised to learn that these are their summer clothes. You can easily guess that the summer is much cooler in their land than in ours. We should be very uncomfortable in such warm summer clothes.

Nandla knows what winter is. He would tell you that winter is very cold, and lasts more than half the year. The ground is covered with ice and snow, and sometimes there are such terrible storms that he cannot go out of doors for days at a time. In winter he wears two suits of fur clothes, one over the other. The tupik in the picture is Nandla's summer house. It is a tent made of the skins of animals. Nandla's winter house is made of snow. Strangely enough, it is warm inside the snow house when it is bitterly cold outside.

Nandla's father is a great hunter. He kills wild animals to provide the family with meat for food, and furs for clothing. Nandla is only ten years old, but he is already learning to shoot with bow and arrow. He will be a great hunter, too, when he grows up.

Hirfa and her home. Hirfa is a little girl whose home is in a part of the world that is almost as warm as Bombo's land. Bombo, you remember, lives in a forest where it rains very often. Hirfa lives in a desert where trees do not grow. That is because there are months and months when it never rains.

Find Hirfa in Figure 3. She is standing at the left holding a baby goat. Notice how she is dressed. If Hirfa wore as few clothes as Bombo, her skin would be burned by the hot sun. In Hirfa's land the air is always dry, but in Bombo's land it is always damp. People are sunburned much more easily in dry air than in damp air. Hirfa's clothes are light and loose, and so she is not too warm.



Figure 3. Hirfa and her home in the desert.

The tent that you see in Figure 3 is Hirfa's house. It is made of woolen cloth. This would be a poor kind of house in Bombo's land, for it would not keep out the rain. Hirfa's people do not need shelter from rain, but they do need shelter from the heat of the sun. Hirfa spends the hottest part of each day in the tent, for there is no other shade in this treeless land.

Hirfa's friends say that her father is rich. This is because he has a large flock of sheep, a herd of goats, ten camels, and two swift horses. All these animals must have grass to eat or else they will die.

Hirfa's people do not live in one place all the time. They move about with their flocks and herds. They camp wherever they find grass, and stay until the animals have eaten it all. Then they pack their tents on the backs of the camels, and move to another grassy place. Hirfa likes to move from one place to another, for then she rides on a big camel.

A "missing word" test. In every one of the sentences below there is a word missing. Study each sentence carefully, and choose the missing word from the list at the bottom of the page. If you remember what you have learned about Bombo, Nandla, and Hirfa, you will have no trouble in finding the right word for each sentence.

1. Bombo lives in a land where the weather is ___ all the time. 2. That is why he wears so few _____. 3. Bombo's house is a little hut made of _____. 4. Nandla lives in a ____ land. 5. That is why he wears ___ clothes all the year round.

6. In the _____ Nandla lives in a tent. 7. In the winter he lives in a house made of _____. 8. Hirfa lives in a warm land which is very _____. 9. She lives in a _____ all the time. 10. Her family have to _____ every few weeks to find grass for their animals to eat.

LIST OF MISSING WORDS

clothes	dry	hot	snow	tent
cold	fur	move	summer	wood



Courtesy of U. S. Shipping Board

Figure 4. A great steamship which carries people across the ocean. Notice how much higher the ship is than the

buildings in the picture. It is about nine hundred feet long, and it can carry three thousand people at a time.

GEOGRAPHY AND TRAVEL

What geography teaches. You have begun your study of geography by learning something about Bombo and Nandla and Hirfa, and how they live. You have found that their clothes and houses are different from one another and very different from yours. That is because their *homelands*, or the places where they live, are different from one another and different from your own.

Geography is a study of *people and their homelands*. It answers these questions about each group of people :

1. Who are they and where do they live?
2. What kind of place is their homeland?
3. How do they live, and work, and play?
4. Why do they live as they do?

As you study this book, you will find that there are many people in the world whose homes are much like our own. They live in cities and towns and villages, or on farms, as we do. Their houses and clothes and ways of living are much like ours. But you will find many other people whose homes and ways of living are different from one another and different from anything you have ever seen. As you study the geography of each new place you will learn *how the people live, and why they live as they do*.

Something to think about. Should you like to visit Bombo, Nandla, and Hirfa, and learn more about the way they live? That is one of the things that we are going to do in this study of geography. We shall visit the homes of other interesting people, too.

No doubt you are already thinking of things that you would like to know about these children of far-away lands. Below are some questions about them which this book will answer.

1. What kinds of food do Bombo, Nandla, and Hirfa eat?
2. Why are their clothes and houses so different from our own?
3. Why does Nandla live in one kind of house in summer, and in another kind in winter?
4. How does he keep warm in a snow house?
5. Why does Hirfa live in a tent all the time?
6. What does her father do with all the animals that he keeps?

From time to time you may think of other questions about Bombo, Nandla, and Hirfa which you would like to have answered. Write them down as you think of them. Then, as you visit the lands where these children live, try to discover the answers to your questions. In order to find them, you will need to read carefully and to study the maps and pictures.



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Figure 5. A fast passenger train. The engine is so powerful that it can pull a long line of cars at a speed of more than a mile a minute.

Imaginary travels. Our journeys this year are going to be imaginary travels, for we cannot really travel to far-away lands. The way to be an imaginary traveler is to read about other lands and their people, to study pictures of them, and to think what you would see if you were really visiting them. Being an imaginary traveler is the next best thing to being a real traveler.

If you have ever taken a long trip in an automobile or a train or a ship, you know how interesting it is to travel. On our imaginary journeys we shall cross the oceans in big steamships. We shall ride hundreds of miles in railroad trains. We shall do some of our traveling in automobiles. We shall even ride in an airplane. See Figures 4, 5, and 6.

On some of our journeys we shall visit places where there are no railroads or steamships or automobiles. Then we must travel just as the people who live there do. That may be the most interesting of all. Let us plan to keep a list of all the different ways in which we travel.

HELPS FOR TRAVELERS

Something travelers must know. Suppose your teacher asks you to go on an errand to another school, and you do not know how to get there. Before you start, you will ask your teacher to tell you the way. It is the same with people who travel. Before they start on a trip, they find out how to get to the place they want to visit. One of the very first things they need to know is the *direction* in which they must travel.

Directions. When you were reading about Nandla, you learned that he lives far away to the *north*. Can you point toward Nandla's home? If you can, you know the direction in which you must travel when you go to visit him. North is only one of the directions that we need to know before we start on our imaginary journeys. There are three others that we must be sure of: *south*, *east*, and *west*.

A traveler's test. Try to answer the following questions. They will show you some of the things you need to know about directions.

1. In what direction does your shadow point at noon?
2. How can we tell directions by the sun?
3. What and where is the Big Dipper?
4. How can we tell directions by the stars?

Pages 6 and 7 will help you to answer these questions and to learn more about directions.



Figure 6. A passenger airplane. An airplane such as this travels at a speed of about two miles a minute.



Figure 7. A boy standing in the sunlight at noon. He is facing and pointing *south*, in the direction of the sun. Notice that his shadow is straight behind him, pointing *north*, or away from the sun.



Figure 8. The same boy standing with his back to the sun at noon and pointing *north*, in the same direction as his shadow. Notice that the *south* is now at his back, and that his shadow is in front of him.

Telling directions by the sun. We get our directions from the sun. You know that the sun always rises in the *east*, and sets in the *west*. In the part of the earth where we live the sun is in the *south* every day at noon. At that time of day the shadows of all objects in the sunlight point toward the *north*. Since this is true, you may think of noonday shadows as *pointers to the north*. Figures 7 and 8 will help you to understand this. Study the pictures and the legends, or printing, under them.

The pictures show that no matter how the boy faces at noon, his shadow always points north. When you know the directions north and south, it is easy to find east and west. Look at Figure 8 again. As the boy faces north, the *east* is on his *right*, and the *west* is on his *left*. If he should raise both arms side-

ways, his right arm would point toward the east, and his left arm toward the west.

The directions never change. North is always opposite south, and east is always opposite west. Practice finding the directions out of doors at noon yourself, using your shadow as a pointer to the north. You may find this hard if you try it in summer, for then the sun is so nearly overhead at noon that the shadows are very short. But in the winter you can do it easily, for at that time of year the noonday sun is much lower in the sky and the shadows are longer.

Testing yourself. The following questions are given so that you may test yourself to see if you understand Figures 7 and 8 and what they teach. If you fail on any of them, you need to study the section above more carefully.

1. Do shadows point toward or away from the sun?
2. In what direction do shadows point at noon in our part of the earth?
3. When you face north, what direction is at your back? on your right? on your left?
4. What is the sunrise direction? the sunset direction?
5. Name the directions that are opposite each other.

Telling directions by the stars. At night we can find the directions by the stars. In the part of the earth where we live we can see a star which tells us where the north is. It is called the North Star. Figure 9 will show you how to find the North Star in the sky. Study the picture and its legend.

The first time you are out on a clear night, hunt for the Big Dipper in the sky. When you have found it, follow the line of the Pointer Stars until you find the North Star. Then practice telling the other directions.

"In-between" directions. North, south, east, and west are the four main directions, and the ones whose names we use most. Often, however, we wish to speak of directions which are *between* the main ones. There are four of these "in-between" directions: *northeast*, *northwest*, *southeast*, and *southwest*.



Figure 9. The Big Dipper and the North Star. The Big Dipper and the neighboring stars seem to move around the North Star once in every twenty-four hours, but the two Pointer Stars in the Dipper always point toward the North Star.

You can see that the name of each one is made by joining the names of the two main directions between which it lies. For example, the direction between north and east is called northeast.

Figure 10 will help you to understand these in-between directions. The main directions are marked by the capital letters which stand for their names. The names of the directions between the main ones are printed in full. Study the figure until you are sure that you know the names of the in-between directions and where they are.

A direction match. Now you are ready to find the directions in your schoolroom. First find which direction is north, and then practice finding the other directions. After you have had practice enough, you may ask your teacher to let you have a direction match.

The whole class should stand, facing north. Your teacher will give the name of a direction, and every member of the class must try to point in the direction named. Those who point in the wrong direction are out of the match, and must sit down. Then your teacher will name another direction, and again those who fail to point correctly must sit down. The match will go on in this way until only one pupil is left standing. That pupil will be the winner.

Can you answer these questions correctly? Below are seven questions which are to be answered by giving the names of directions. Write the numbers 1 to 7 in a column on a piece of paper. After the number which stands for each question write the correct answer.

1. In what direction do you look as you sit at your desk in the schoolroom?
2. On what side of the room is your teacher's desk?
3. In what direction does your teacher look as she sits at her desk?
4. On what side, or sides, of the room are the windows?
5. On what side of the room is the clock?
6. On what side, or sides, of the room are the pictures?
7. On what side of the room is the door by which you enter?

Something to do. Make a tracing of the lines in the diagram below (Figure 10).

Mark the point at the top of your diagram N for north. Then, without looking at Figure 10, mark the other points with the right letters to show what directions they stand for. The letters to be used are:

N for north
S for south
E for east
W for west

NE for northeast
SE for southeast
NW for northwest
SW for southwest

When you have finished, compare your diagram with Figure 10 and see if you have marked every direction correctly.

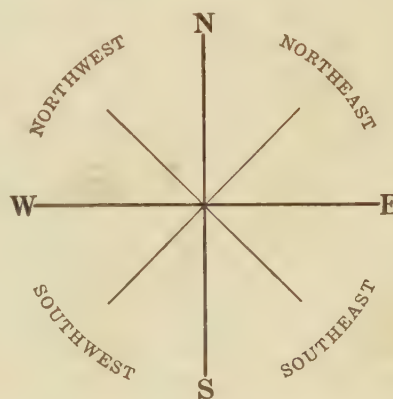


Figure 10. A diagram showing directions.

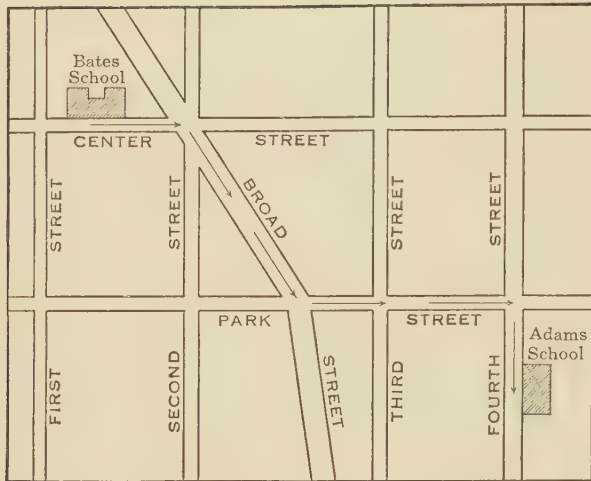


Figure 11. A simple map showing streets and schoolhouses. The arrows show the route, or way, from one school to the other. Name the streets along which you would walk from the Bates School to the Adams School.

Find your way back by a different route.

How a map can help you. Suppose once more that you had to go on an errand to another school and did not know how to get there. Besides telling you where to go, your teacher might draw a little plan, or *map*, like Figure 11. This map would help you to find your way. If you followed it carefully, you would have no trouble in reaching the other school. Study Figure 11 and its legend.

Map symbols. The double lines in Figure 11 are just signs, or *symbols*, which stand for the streets. You know how wide a real street is. Notice how small the symbols for the streets are on the map. The way the lines are placed is the only thing that makes them look like streets.

The little gray blocks on the map are very small symbols for the schoolhouses. They do not look at all like the real schoolhouses, but they show where the schoolhouses are. They also show something of the shape of the buildings.

A map of a place is always much smaller than the real place, and the things that are drawn on it are just little symbols for real things.

A map to make. Make a little map showing where your house is and where your school is. Draw and name the streets or roads between them. Print the letters N, S, E, and W in the right places to show the main directions. Mark the route from your house to your school with arrows. Draw your map so carefully that a stranger could find his way by it.

Different kinds of maps. There are so many different kinds of maps that it would take a whole book to tell about them all. Perhaps you have seen a map of the town or city or county where you live. The symbols on it tell where the roads and streets are, where the more important buildings are, and many other useful things.

No doubt you have seen an automobile road map. There are road maps of every state in our country. They show the automobile routes and many other things that are a great help to automobile drivers.

There are maps in the time-tables and booklets which railroad and steamship companies print to help people in traveling. The maps show the railroad lines and the steamship routes, and make it easier for people to plan their trips.

There are many maps in this book. As you learn to read them, you will find that they have many interesting things to tell you.

A map exhibit. You will find it interesting to make a collection of different kinds of maps for a schoolroom exhibit. See if you can start the exhibit with a map of your town or city, a map of your county, an automobile road map, a railroad map, and a map showing steamship routes.

Hunt for other maps in newspapers, magazines, and advertising booklets. Do not bring all the maps you find to school. Choose those that you think are best because they tell something interesting. The best maps that are brought in should be added to the schoolroom exhibit. Each pupil who has a map in the exhibit should be able to explain its symbols and tell why the map is useful.

Other things travelers should know. Wherever we travel, we are sure to meet and talk with other travelers. We shall hear them speaking of the shape of the earth, the oceans and continents, and the different kinds of lands they have seen. If we are to enjoy talking with them, we too must know about these things. After you have studied the lessons, maps, and pictures on the next few pages, you will be ready to talk with other travelers.

A globe map of the earth.

In starting our journeys, we shall need a map which shows the whole earth. The kind of map that will help us most is called a *globe*.

Figure 12 is a picture of a globe which represents, or stands for, the earth. Is there a globe of this kind in your schoolroom? You might call it a *ball map* instead of a globe, for it is a ball with the map of the earth drawn on it.



Figure 12. A globe which represents the earth.

The shape of the earth.

Of course you know why we use a globe when we want to show the shape of the earth. Every boy and girl who has been to school knows that the earth is round, almost as round as a ball.

If you ask Bombo about the shape of the earth, he will probably say that it is flat. If you ask him why he thinks it is flat, he will probably answer, "Because it *looks* flat." Bombo has never been to school, and so he does not know that the earth is round.

We must not laugh at Bombo because he thinks the earth is flat. You might think so, too, if you had never been to school. It will be interesting to find out why the earth seems flat when it is really round. One reason is that it is very large.

The size of the earth. Hold your hands about eight inches apart, as if you were holding a toy balloon. A balloon of that size measures about twenty-five inches round the middle. If the balloon could be blown up until it was as big as the earth, every inch of the distance round it would stretch to a thousand miles. It is hard to imagine such a large balloon, but it may give you some idea of the size of the earth.

Do you walk fast? If you do, you can walk about two miles and a half in an hour. If you walked as fast as that, day and night, without stopping, it would take you more than a year to walk as far as the distance round the middle of the earth. Does this help you to understand a little better how big the earth is?

Why the round earth looks flat. The earth is so large that you can see only a very, very little of it at one time. Even if you climb a high hill and look all about you, you can see only a very

small part of the earth. It is because you can see so little of it that it looks flat.

You will understand this better if you will pretend that you are a wee dwarf, no bigger than this letter T, and that you are standing on a ball as large as your schoolhouse. Think what a small part of the big ball you would be able to see. That little bit of the rounded surface of the ball would look flat to you.

It is the same with people and the earth. We are so small and the earth is so big that the little we can see of it seems flat to us. In spite of the way it looks, we know that the earth is ball-shaped, and that its surface is rounded instead of flat.



Courtesy of Denver Tourist Bureau

Figure 13. High mountains in the United States.

LEARNING TO KNOW THE GLOBE

If possible, sit facing north in the schoolroom while you are studying pages 10-15.

The first view of the globe. Figure 15, opposite this page, is a picture of a globe which represents the earth. If you have a globe in your schoolroom, you know that by turning it you can see one part of the earth after another. The globe shown in Figure 15 is turned so that you can see the part of the earth where you live. The blue color shows where there are large bodies of water. The other colors show where there is land.

As you look at Figure 15 you can see that there are two large bodies of land in this part of the earth. They are called *continents*. There are five other continents which you will learn about later.

On Figure 15 find the continent named North America. Our country is in North America, and so this is the continent where we live. Find the continent of South America on Figure 15. In what direction is it from North America? Point in the direction of South America as you sit at your desk in the schoolroom. On Figure 15 point to the narrow strip of land that connects North America and South America.



Figure 14. A level plain in the United States.

The large bodies of water on each side of North America and South America are *oceans*. Point to the Atlantic Ocean on Figure 15. Is it on the eastern side of the two continents or the western side? Point to the Pacific Ocean on Figure 15. On which side of the two continents is it? As you sit at your desk point toward the Atlantic Ocean and then toward the Pacific Ocean.

Figure 15 shows that the surface of the land in both continents is uneven. The parts that look the highest and roughest are *mountains*. Find some mountains in North America and some in South America. The parts that look smoother are lower and less rough than the mountains. These smoother, or more level, lands are called *plains*. Find some plains in North America and some in South America. Figures 13 and 14 will show you how different mountains are from plains.

Study the explanation of the colors under Figure 15. Then point to some parts of North America and South America where there is enough rain for grass or trees to grow. Point to some parts that are too high or too dry for much grass or tree growth. Point to a part of North America where it is too cold for trees to grow. Nandla lives in this cold part of North America.



Figure 15. The first view of the globe.

The lands colored *green* have enough rain so that they are covered with grass, or trees, or both. The lands colored *brown* are either so high or else have so

little rain that they have only a few trees, or a thin covering of grass, or none at all. The lands in the north colored *gray* are so cold that they have no trees.



Figure 16. A view of the globe showing the two continents which make up Eurasia. The part of Eurasia north and west of the white dotted lines is Europe. The part south and east of them is Asia. Point to the narrow strip of land connecting Asia and Africa.

The second view of the globe. Look again at the globe on page 11 and imagine that you have turned it *from right to left* until you can see the part of the earth shown in Figure 18. You cannot see North America and South America now, for they are on the side of the globe which is turned away from you.

Find the Atlantic Ocean on Figure 18. Then find the Mediterranean Sea. A *sea* is a large body of water, but it is smaller than an ocean. The word *mediterranean* means "in the midst of the lands." Why do you think *Mediterranean* is a good name for this sea?

The large body of land which lies south of the Mediterranean Sea is the continent of Africa. Point to Africa on Figure 18. This is the continent where Bombo lives.

The rest of the land that you

can see in this view of the globe is called Eurasia. Long ago the western part of Eurasia was named the continent of Europe, and the eastern part the continent of Asia. You can see that the name *Eurasia* is made by joining the first three letters of the name *Europe* to the name *Asia*. Asia is so large and extends so far to the east that you cannot see all of it in Figure 18.

The smaller picture of the globe (Figure 16) shows how Eurasia is divided into the continents of Europe and Asia. Study Figure 16 and its legend carefully.

Point to the Indian Ocean on Figure 18. Is it on the western side of Africa or on the eastern side? What ocean lies west of the continents of Europe and Africa?

Point to a part of Africa that has plenty of rain. Point to a large section of Africa that looks as if it must be very dry. This section is the largest *desert* in the world. Figure 17 shows how this desert looks. Study the picture and its legend.

Point to some very dry parts of Asia which extend northeastward from the dry part of northern Africa. These too are deserts. Point to some mountains in Asia. Point to some plains in Europe and Asia that have enough rain for trees and grass to grow.



Figure 17. The Sahara Desert in northern Africa. So little rain falls here that neither trees nor grass can grow. Large stretches of the desert are sandy, and other parts are rocky.



Figure 18. The second view of the globe.

The lands colored *green* have enough rain so that they are covered with grass, or trees, or both. The lands colored *brown* are either so high or else have so

little rain that they have only a few trees, or a thin covering of grass, or none at all. The lands in the north colored *gray* are so cold that they have no trees.



© New York Times

Figure 19. Some of the highest mountains in the world. Their tops are about five miles above the surface of the sea and are always covered with snow and ice.

The third view of the globe. You will remember that you could not see all of Asia in the view of the globe shown in Figure 18. You must turn the globe still farther from right to left to see the eastern part of this great continent. Imagine that you have turned it to the position shown in Figure 21 opposite this page. Point to the continent of Asia on Figure 21. What two continents that you saw in Figure 18 do not show in this third view of the globe?

Looking at this part of the globe, you can see still another continent. This is the continent of Australia. Point to it. In what direction is Australia from Asia?

Australia is the smallest of all the continents. Sometimes we speak of it as a large island. Probably you know that an *island* is a body of land surrounded by water. Between Australia and Asia are a large number of smaller islands. Point to some of them.

What ocean lies west of Australia? What ocean lies east of Asia and Australia?

Point to some low plains in northern Asia. What part of them is too cold for trees? Point to parts of Asia that are deserts. Point to parts that have plenty of rain.

Point to some high mountains in the southern part of Asia. Among them are the highest mountains in the world. Figure 19 shows how they look. Study the picture and its legend.

Point to a part of Australia that looks very dry. Here is another of the great deserts of the earth. Point to a part of Australia that seems to have plenty of rain. Do the islands which lie between Australia and Asia receive much rain or little rain?

The cold southern continent. There is still another continent far to the south of Australia, Africa, and South America. This continent is called Antarctica. It lies so far to the south that it cannot be seen in the views of the globe shown in Figures 15, 18, and 21.

Antarctica is a land of ice and snow, and it is too cold for anybody to live there. Only a few of the most daring explorers have ever visited it. Figure 20 is a map of Antarctica. Study the map and the legend under it.

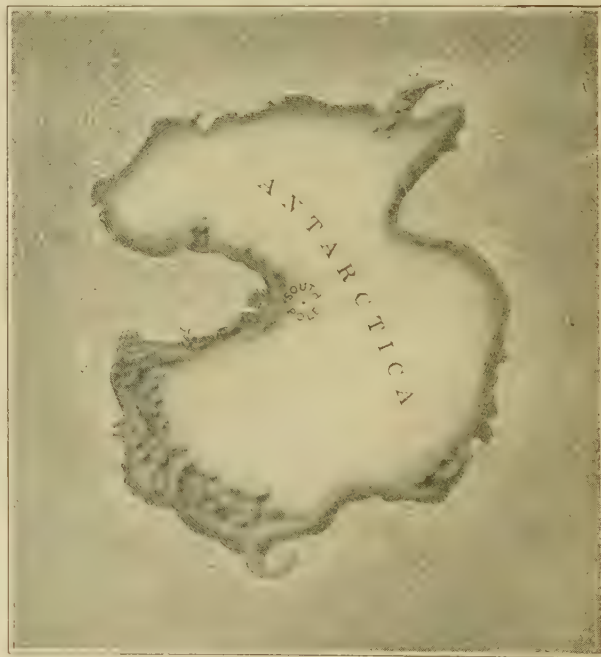


Figure 20. The cold southern continent. We know very little about Antarctica because so few people have ever been there. We believe that most of it is covered with ice and snow that never melt away. The white dots on the map stand for the huge blocks of ice that float in the water round Antarctica.



Figure 21. The third view of the globe.

The lands colored *green* have enough rain so that they are covered with grass, or trees, or both. The lands colored *brown* are either so high or else have so little rain that they have only a few trees, or a thin covering of grass, or none at all. The lands in the north colored *gray* are so cold that they have no trees.

A REVIEW OF THE GLOBE STUDY

Are you ready to go traveling? The review on this page is given so that you may prove that you know enough about the earth to start on your imaginary travels. As soon as you have passed the tests, your teacher will let you start for Bombo's home.

A "choose one" test. Each of the following sentences has three endings. Only one of the endings is correct. Read each sentence carefully, choosing the ending that makes it right.

1. The continent on which I live is called
Australia. Africa. North America.

2. The continent which is connected with the one on which I live is called
Europe. South America. Asia.

3. The ocean which borders the eastern side of North America and South America is the
Pacific Ocean. Atlantic Ocean. Indian Ocean.

4. The ocean which borders the western side of North America and South America is the
Indian Ocean. Atlantic Ocean. Pacific Ocean.

5. In traveling from the United States to Europe or Africa, I should cross the
Atlantic Ocean. Indian Ocean. Pacific Ocean.

6. In traveling from the United States to Asia or Australia, I should cross the
Atlantic Ocean. Pacific Ocean. Indian Ocean.

A continent test. The blanks in the following sentences are to be filled with *names of continents*. The first letter or letters of each name are given as helps. Copy the sentences, filling each blank space with the right name.

1. The seven continents are:

N____ A_____

S____ A_____

E_____

A____

A_____

A_____

A_____

2. N____ A_____ and S____ A_____ are connected by a narrow strip of land.

3. E_____ and A____ form one great body of land which is called Eurasia.

4. A_____ is connected with Asia by a narrow strip of land.

5. A_____ is the island continent.

6. A_____ is the cold southern continent.

A map test. In your study of the globe you saw the continents arranged as they are on the earth. Below, in Figure 22, are seven little maps, one of each continent *by itself*. They are arranged in the order of their size, with the largest continent at the left, and the smallest at the right. See if you can tell the name of each one by its shape. If you cannot, you need to study the pictures of the globe more carefully. When you are sure you can name the continents in Figure 22, answer the questions under them.



Figure 22. The seven continents.

Adapted from Goode's School Atlas

1. What is the largest continent? 2. What is the smallest? 3. How many continents are larger than our own? 4. What are their names? 5. How many continents are smaller than our own? 6. What are their names? 7. What is the second largest continent?

8. What is the next to the smallest continent? 9. What continent stands in the middle of the line, with three larger continents on one side and three smaller ones on the other? 10. Name the seven continents in the order of their size, beginning with the largest one.



© Fairchild Aerial Surveys, Inc.

Figure 23. A picture of New York taken from an airplane. See how close together the buildings are in this

great city. Ships of all kinds are loaded and unloaded at the long piers which extend out into the water.

A VISIT TO BELGIAN CONGO

A TRIP ACROSS THE OCEAN

Starting for Bombo's land. Now we are ready to start on our journey to Bombo's home. Bombo, you know, lives in one of the warmest parts of the earth. The name of his country is Belgian Congo, and it is in the continent of Africa. To get to Belgian Congo we shall have to cross the Atlantic Ocean.

A great seaport. Figure 23 is a picture of New York, the city where we shall find the ship which will carry us to Africa. New York is on the seacoast, where the land meets the ocean. It is a very large city and also a great *seaport*. That means that ships come to it, bringing people and goods from all parts of the earth. It also means that ships sail away from

it, carrying people and goods to distant lands. Study Figure 23 and its legend.

Planning your journey to New York. Since you are going to start on your ocean voyage from New York, you will need to find out where the city is and how to get there. Turn to the map of the United States on pages 238-239 and find the state where you live. Then find the city of New York. In what direction is it from your home?

How are you going to travel to New York? This will be an interesting problem for your whole class to work out. You must find out whether it will be best to make the trip to New York by train, by boat, or by automobile, and how long it will take you to get there. Try to get some maps to help you.



Figure 24. A map showing the Atlantic Ocean and the lands which border it.

Reading the travel map. Suppose that we have made the trip to New York, and are now on board a big ship on the Atlantic Ocean. We have left our own country far behind us, and are sailing toward Bombo's land. It will take us several weeks to make the ocean voyage from New York to Belgian Congo.

Figure 24 on this page is a travel map for

this part of our journey. Point to our own continent on the map, and then to the continent that we are going to visit. The route which our ship is following is marked on the map by a line of arrows. Trace it with your finger. In what direction is our ship sailing? Point in that direction as you sit at your desk in the schoolroom.



Figure 25. Three views of the globe showing the line which is called the equator. With your finger trace

the equator from left to right on each globe, and give the names of the continents through which it passes.

Crossing the equator. As we sail southward across the ocean the weather grows warmer and warmer. The days are very hot now, for we have reached the part of the earth where it is warm the whole year round. We are nearing the *equator*. The three views of the globe shown in Figure 25 will show you what the equator is. Study Figure 25 carefully and follow the directions given under it.

If you have a globe in your schoolroom, trace the equator on it. This will show you clearly that the equator is a line which runs east and west round the globe, making a circle. It will also show you that the equator runs round the *middle* of the globe, dividing it into two equal parts, or halves. The word *equator* is not hard to remember when you think that it divides the globe into halves, and that the two halves of anything are always equal. If the equator were drawn on the earth itself, it would divide the earth into halves.

We speak of the halves of the earth as *hemispheres*. The word *hemi* means "half," and the word *sphere* means "globe," or "ball." The earth, then, is a sphere, and half the earth is a half-sphere, or a hemisphere. The half of the earth north of the equator is called the *Northern Hemisphere*. The half south of the equator is called the *Southern Hemisphere*.

On Figure 24 point to the place where our ship crosses the equator. When we reach that place, what hemisphere shall we be leaving behind us? What hemisphere shall we be in during the rest of our voyage?

We cannot see the equator when we cross it, for it is not a real line on the surface of the earth. It is simply a line which is drawn on globes and maps to help us in finding places and measuring distances on the earth.

The warmest parts of the earth are near the equator. The coldest parts are those which are farthest north and farthest south from the equator. In traveling from New York to Belgian Congo we go from one of the cooler parts of the earth to one of the warmest parts.

Sentences to complete. Complete the sentences below by filling each blank space with the name of one of the hemispheres about which you have just learned.

1. Our own continent of North America is in the _____ Hemisphere.
2. South America is mostly in the _____ Hemisphere.
3. Eurasia is in the _____ Hemisphere.
4. Africa is partly in the _____ Hemisphere, and partly in the _____ Hemisphere.
5. Australia and Antarctica are both in the _____ Hemisphere.



Figure 26. A map of the central part of Africa. The letter B shows where Bombo lives. The two black dots are symbols for towns, and the cross-barred line (+++++) is the symbol for a railroad.

A RIVER HIGHWAY INTO AFRICA

The Congo River. As our ship nears the coast of Africa the sea water begins to look brown and muddy. No land is in sight yet, but the muddy water is a sign that we are nearing the *mouth*, or lower end, of a great river. It is the Congo River, for which Bombo's country is named.

The Congo is one of the longest rivers in the world. Turn back to your travel map (Figure 24) and find this great river. The arrows on the map show that our ship is going directly toward the mouth of the Congo, where the river flows into the Atlantic Ocean. Point to the mouth of the river on the map.

On Figure 24 find the section of Africa which is marked off by four straight lines. Figure 26 on this page shows *only* that part of Africa, but it is made larger so that you can see the Congo River more clearly. Point to the mouth of the Congo on this map.

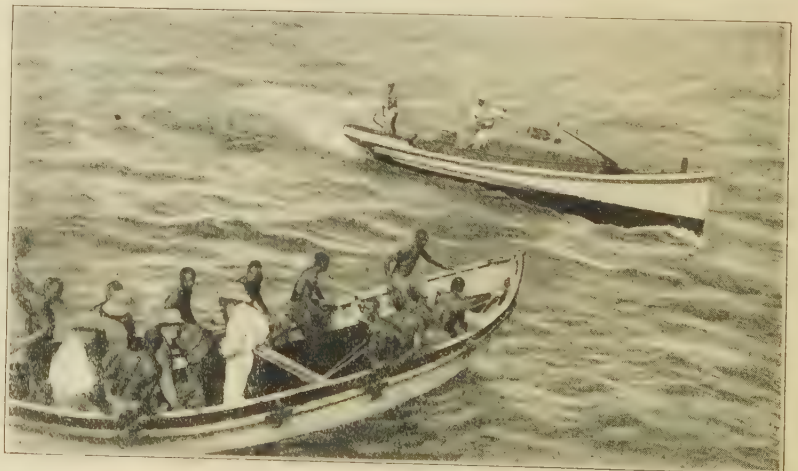
Figure 26 shows that many other rivers join the Congo as it flows to the sea. These rivers are

called *tributaries* because they give, or *contribute*, water to the Congo. Each tributary flows into the Congo, and the Congo carries water from all of them to the sea.

The Congo and its tributaries wash a great deal of mud and sand from the land through which they flow. The *current*, or movement, of the Congo itself is so strong that it carries the mud and sand far out to sea. That is why the sea water is muddy so far from the land.

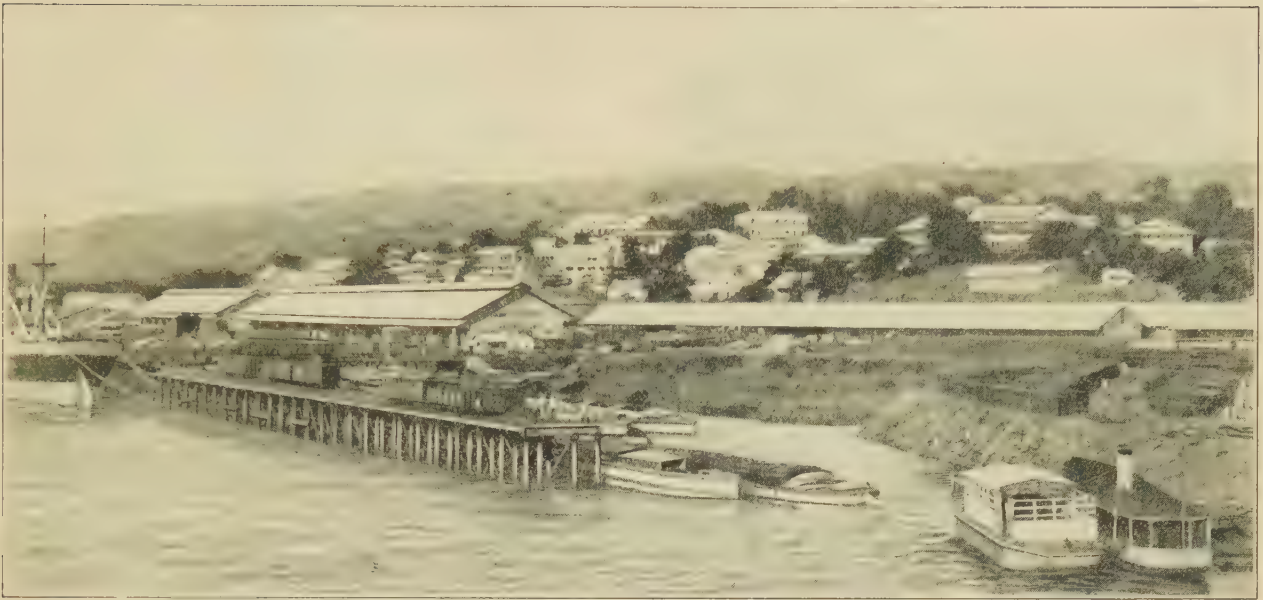
The Congo River is a great highway, or route of travel, into central Africa. On our journey to Bombo's home we shall follow the river from its mouth to the place where it crosses the equator. Point to this place on Figure 26.

The mouth of the Congo is so wide that as we enter it we can see only one bank of the river. On this bank is a little town of low white buildings. Out from the shore come two small boats. One is bringing a pilot to steer our ship safely up the river. The other is to take passengers to the shore. The boatmen are negroes. Their skin looks almost black, and their hair is black and curly. See Figure 27.



Courtesy of H. J. Finch

Figure 27. Negro boatmen taking passengers ashore on the coast of Africa. Why are the boatmen wearing so few clothes?



Courtesy of H. J. Finch

Figure 28. The town of Matadi on the Congo River. This is the view that we get as our ship steams up to the wharf. The wharf is the platform built out over the water. The freight cars on the wharf tell you that

Matadi is a place where ships and railroad trains meet and exchange goods. The long buildings, or warehouses, are used to store different kinds of freight, or goods, which are to be taken away by trains or steamships.

The black race. We speak of the negroes as people of the *black race* because of the color of their skin. We shall see many more negroes than white people in Belgian Congo, for Africa is the home of the black race. Bombo is a negro.

Up the Congo to Matadi. Soon we are on our way up the river. For some distance the shore is low, and thickly covered with trees. Farther on, the river grows narrower, and we can see the land on both sides. The banks are higher now, and the trees are farther apart, but not a house is to be seen. The farther we get from the ocean, the more we miss the sea breezes. The sun is very hot, and the air feels moist just as it sometimes does on a summer day at home. Even in our thinnest clothes we are uncomfortably warm.

Our ship is moving slowly now, for it is pushing *upstream* against the strong current of the Congo. If it were going *downstream*, it would move faster, for the current would help it. After several hours we reach the town of

Matadi. This is as far as our ship can go, and so we shall get off here. Although Matadi is many miles from the ocean, it is a seaport because ocean ships come to it. Find Matadi on Figure 26 and then study Figure 28.

The reason our ship cannot go farther upstream is that for a long distance above

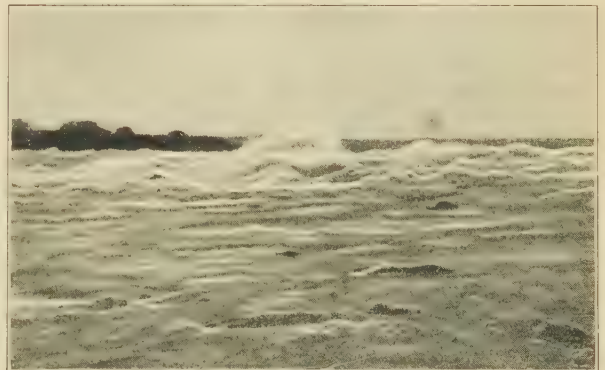


Figure 29. Rapids in the Congo River. In this part of the river the water is not very deep, and there are big rocks just beneath the surface. The current is swift, and as the water dashes against the rocks it becomes rough and foamy. It is the rocks and the swift-flowing water that make the rapids.



Figure 30. Native people at Leopoldville. The natives who live in the towns where there are white people wear more clothes than those who live in villages in the midst of the forest.

Matadi there are dangerous *rapids* in the river. Because of the rapids this part of the Congo is not *navigable*; that is, ships cannot sail on it. Figure 29 shows you how the rapids look. Study the picture and its legend.

There are rapids in the river all the way from Matadi to another town named Leopoldville. Find Leopoldville on the map (Figure 26). Above Leopoldville the Congo flows smoothly again and is navigable for a long distance. Between Matadi and Leopoldville a railroad has been built to carry passengers and freight past the rapids, and to connect the two navigable parts of the river. Trace this railroad on Figure 26.

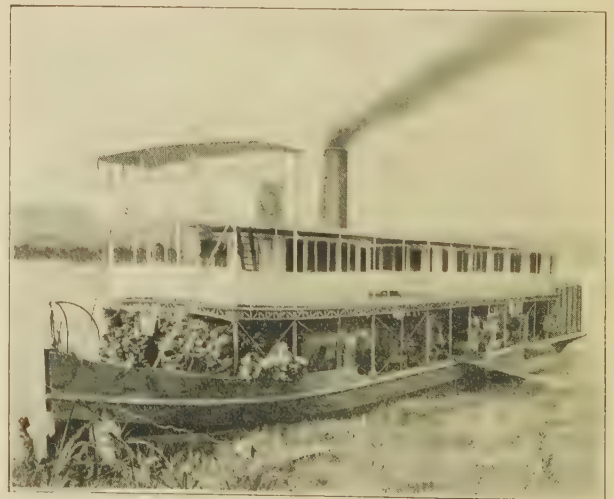
Since ships from the ocean cannot sail up the Congo beyond Matadi, their cargoes, or loads of goods, are unloaded here and sent up to Leopoldville by train. Coming back, the trains bring the things which the people of Belgian Congo wish to send to other parts of the world. At Matadi these goods are loaded on the steamships and carried away.

Matadi is not a big town, but it is a busy one because it is the seaport for Belgian Congo. As we walk through the streets, the

hot sun shining on our heads makes us dizzy, and the heat from the ground almost burns our feet. No white person could possibly enjoy living in such a hot place. The only reason a town has grown up here is that this is the place where the ships and trains meet to exchange passengers and goods.

Using new words. During your trip up the Congo you have learned the meanings of seven new words, each of which has something to do with rivers. These words are: *current, downstream, mouth, navigable, rapids, tributary, upstream.* Prove that you know how to use them correctly by giving the right word to fill each blank in the following sentences:

1. The lower end of a river is its _____.
2. The movement of the water in a river is called its _____. This movement is always toward the _____ of the river.
3. A river which flows into another river is a _____.
4. A river on which ships can sail is _____.
5. A ship moving up a river from the mouth is going _____, against the _____.
6. A ship moving down a river toward the mouth is going _____, with the _____.
7. Places in a river where the water flows very swiftly over a rocky bottom are _____.



Courtesy of H. L. Shantz

Figure 31. A Congo River steamer. A boat like this will take us up the river from Leopoldville. The engine is run by steam, which is made by burning wood. The wood is piled up in the bow of the boat.



Figure 32. A native village on the Congo River. The small huts in which the people live are crowded together in a little open space close to the river bank.

All round the village is the thick forest. Along the shore you can see some of the homemade canoes which the natives use in making journeys up and down the river.

A business center. From Matadi we take the train to Leopoldville, where we shall get a boat to carry us still farther up the Congo. Leopoldville is the business center of this part of Belgian Congo, and has stores and offices somewhat like those in the smaller towns of our own country. The business is carried on by white men who have come to Belgian Congo from other parts of the world. For that reason there are a good many white people in Leopoldville. There are also many negroes, or *natives*, as they are usually called. See Figure 30.

Figure 31 shows the kind of steamers which you will see at Leopoldville. They carry passengers and freight back and forth between Leopoldville and the towns farther upstream.

On the river again. We leave Leopoldville on a hot, sunny morning. The river steamer seems small after the big ship in which we crossed the ocean, but it moves steadily upstream against the current.

This part of the Congo is bordered by a thick forest. Along the banks of the river giant trees crowd one another for a place to grow. Climbing vines wind round the tree trunks and hang in loops between them. In some places the thick tangle of trees and vines rises like a green wall from the edge of the water. In other places the trees are a little farther back from the stream, and there are open grassy spots on the banks.

Now and then we see a number of monkeys swinging from limb to limb among the tree-tops. Bright-colored flowers grow on the vines, and bright-colored birds fly from tree to tree. Nowhere else in the world are the colors of the flowers and birds so bright as in the hot, moist forests near the equator.

Among the most interesting sights along the Congo are the native villages. Each one is a group of little huts on the river bank. Figure 32 shows how one of these villages looks. Study the picture and its legend.



Figure 33. Native boys in canoes. The canoes are made of logs hollowed out, and pointed at the ends. The natives paddle so skillfully that they can travel long distances in their canoes in a day.

The natives who live in these villages spend much of their time on the water. On our way up the river we see some of them fishing and others paddling in their canoes. *See Figure 33.*

The Congo River is wide, but in many places the water is shallow. It is muddy too, — so muddy that even in the shallow places you cannot see the bottom. In such places our steamer has to run very slowly, for there is always danger of running aground, which means striking bottom. If the steamer should run



Courtesy of American Board of Foreign Missions

Figure 34. Congo natives with a hippopotamus which they have killed. This animal lives near the rivers and spends most of its time in the water. The natives like to eat hippopotamus meat.

aground while going at full speed, it would probably stick fast in the mud and sand.

As we pass through the shallow places we often see a large number of crocodiles lying half in and half out of the water. They seem to be asleep, but they are ready to make a meal of anybody who is unlucky enough to fall into the river. Perhaps you have seen crocodiles in a zoo. If you do not know how they look, turn to page 159. You will find a picture of one there.

Often we see a big hippopotamus lying in the shallow water near the river bank. Just once we catch sight of an elephant. He is standing in the water near the shore, but as soon as he hears our boat he turns and plunges into the forest. *See Figures 34 and 35.*

Each morning the river is hidden in a warm, moist fog, but the fog soon clears away and the hot sun shines brightly. Almost every afternoon there is a heavy thunderstorm. The wind blows hard and the rain pours down, but the storm never lasts long. In a few hours the sun is shining again, and the air is so moist that it feels hotter than ever.

Every afternoon, just before sunset, our steamer stops by the river bank. The boats on the Congo always stop for the night. One



Figure 35. An elephant in the Congo forest. The African elephants are ugly and dangerous, but the natives are such skillful hunters that they are able to kill a good many of them.



Courtesy of the Reverend C. M. Vocum

Figure 36. Congo natives with elephant tusks. The tusks furnish ivory, which is valuable. Have you ever seen anything made of ivory? Compare the length of the tusks with the height of the men.



Figure 37. Congo natives at a trading station on market day. The natives use very little money in their trading. They exchange the things which they have to sell for those which they wish to buy. Since there are no factories in Belgian Congo, what things in the picture must have been made in either Europe or America?

reason for this is the danger of running aground in the dark. Another reason is that the steamer must take on a supply of wood for the next day.

The natives cut the wood in the forest and pile it up at certain places on the river banks, ready for the steamers as they come along. The captain of each steamer plans to reach one of these places every night.

Trading stations. Every few days we stop at a trading station. This is a place where there are a few stores and houses. White men run the stores and are called *traders*. That is because they trade, or exchange goods, with the natives. Trade of this kind is the buying and selling of goods without the use of money. The things that the natives want most are salt, colored beads, cotton cloth, and knives and tools. These goods come from other parts of the world.

The most important things that the natives have to exchange are palm kernels. These are the seeds, or stones, of the fruit

which grows on a tree called the oil palm. The traders send them down the river to be shipped to other countries. There the kernels are crushed and the oil squeezed out of them. The oil is used in the making of soap and a kind of butter called margarine. The next most important things that the natives have to exchange are the ivory tusks of elephants. Figure 36 shows how the tusks look. Study the picture and its legend.

We usually see a few natives at each trading station. If it happens to be market day, — the day in each week which is set for trading, — we see a great many natives. They have come from the villages for miles round to exchange goods with the white men and with one another. See *Figure 37*.

It is the men who bring the palm kernels and the elephant tusks to the trading stations. The women have fruit, vegetables, and live chickens for exchange. The traders take these for their own use and to supply the river boats which stop at the station.



Figure 38. Traveling by teapoy in the African forest. The teapoy men go at a steady trot, which swings the passenger from side to side and jolts him up and down. Teapoy riding is not very comfortable, but in the Congo forest there is no other way to travel unless you walk.

River sights. As we travel up the Congo River in Bombo's country, we see many things that are different from anything we should see in traveling on the rivers in our own country. Some of the phrases listed below suggest sights along the rivers of Belgian Congo. Others suggest sights along many of the rivers in the United States. Arrange the phrases in two lists, heading one list "Sights along the rivers in Bombo's country," and the other list "Sights along the rivers in our own country."

Steamers run by burning wood
 Large cities with tall buildings
 Trains crossing the river on bridges
 Little villages of grass-roofed huts
 Huge trees wound round with climbing vines
 Steamers run by burning coal
 Boys paddling in canoes made of logs
 Farmers at work in the fields
 Monkeys among the tree tops
 Elephants and hippopotamuses
 Factories along the river banks
 Automobiles speeding along riverside roads
 Boats being loaded with palm kernels.

THE VILLAGE IN THE FOREST

A new way of traveling. When we reach the place where the Congo crosses the equator we shall leave the steamer, for Bombo's village is some distance from the river. The only way to reach it is to follow a path through the deep forest.

One morning we go ashore at a trading station where a number of natives are waiting for us. Some of these men are porters who will carry our baggage. The others are teapoy men. We soon learn that a teapoy is a hammock slung on a pole. The teapoy men hold the hammocks low while we climb into them. Then they raise the poles to their shoulders, and off we go single file into the forest. See Figure 38.

The narrow path winds through a thick tangle of tall trees and climbing vines. Bordering the path there is so much undergrowth of low plants that nobody could get through it without cutting his way with a hatchet.



Figure 39. A bridge in the Congo forest. It is made of poles and vines and is rather unsteady. It sways and creaks as the porters and teapoy men cross it.



Courtesy of the Reverend C. M. Yocum

Figure 40. Native boys dancing in the village street. Dancing is one of their favorite kinds of play.



Courtesy of the Reverend C. M. Yocum

Figure 41. Native boys playing a game in the street. They like to play games just as much as you do.

Trees, vines, and other plants grow so fast in the steamy heat that if a path is not used the forest soon covers it again. You can imagine how hard it is to build roads through this country, and you can easily see why people travel on the rivers wherever possible.

The forest is a shady, silent place. The thick roof of leaves and branches shuts out most of the sunlight. Very few flowers grow in the deep shade. There are not many birds or wild animals either, for they like the more open parts of the forest better. Our path crosses many swamps and streams. Usually the natives have to wade through the mud and water, but in the worst places there are bridges. See *Figure 39*.

About four o'clock we stop for the night. There are still two hours before sunset, but in the forest it is already getting dark. After supper the porters put up our folding camp beds. Over each bed they build a rough roof of poles which they cover with netting to keep out mosquitoes and other poisonous insects which might bite us while we are asleep.

Something to keep in mind. What questions about Bombo do you hope to have answered during your visit in his village? Keep them in mind as you study the next pages.

We reach the village. Early in the morning we are off again in our teapoys. Toward noon the path widens suddenly, and we come out of the forest into an open space. The sunlight is dazzling after so many hours in the deep shade. Before us is a dusty street with houses on both sides. This is the main street of Bombo's village. Figures 40 and 41 will show you what we see there.

The houses. The houses in the village are much alike. They are made of thin strips of wood, with low doors and no windows. Some of them are plastered with mud. The roofs are steep, and they are covered, or thatched, with many layers of smooth palm leaves. These roofs are just the right kind for such a rainy country, for the water runs off them easily.

Inside the houses there is almost no furniture. The beds are piles of leaves or branches laid on the dirt floor and covered with mats of woven grass. In some of the houses there is a wooden stool or two. Hanging on pegs in the wall are a few iron kettles for cooking and some baskets in which food is kept. It is easy to see that Bombo's people do not spend much time in their houses. They sleep there, but they never stay indoors in the daytime except when it rains.



Figure 42. A native drummer sending a message in the forest. The drum can be heard for several miles, and the people of other villages can tell what it has to say by the way in which it is beaten. People sometimes call it the "native radio." Can you explain why?

¹ **The return of the hunters.** Bombo's father and some of the other men of the village are out hunting. Late in the afternoon we see them coming down the street carrying two wild pigs that they have killed. Some of the men have bows and arrows, some have guns, and others have spears. They are all happy because they have had good luck, and tonight they will celebrate by having a dance.

Soon we hear the boom of a drum. At the end of the street one of the men is pounding with two heavy sticks on a big hollow log. He is inviting the people of a neighboring village to the dance. This is the native way of sending messages in the forest. See Figure 42.

The evening meal. About sunset the women build wood fires in front of the houses and begin to get supper. Bombo's mother is cooking a stew of wild-pig meat and vegetables in a kettle over the fire. It smells good

to Bombo, for he is very fond of meat and he does not have it very often.

The only meat that Bombo's people have is what they get by killing the wild animals in the forest. They do not keep cattle or sheep because these animals cannot stand the heat and the bites of the poisonous insects. They keep a few goats and chickens, but instead of eating them they sell most of them to the traders. Bombo's people live largely on vegetables and fruit, though now and then they have fish.

During the day Bombo's mother has made flour by pounding the roots of a plant called manioc.¹ Now she is making dough of it. She wraps the dough in damp banana leaves and lays it on the hot coals. When it is about half cooked she will pour palm oil over it, and give it to Bombo to eat with his stew. Besides the stew and manioc bread Bombo will have bananas for supper.

When supper is ready, the men gather round the kettle, and each helps himself to the food with his fingers. Bombo is not old enough to eat with the men; so he has to wait until they have finished and eat with his mother and sisters.

The dance. After supper the guests arrive for the dance. More wood is thrown on the fires, and they blaze brightly. Several men begin to thump on small drums, which are hollow logs with skin stretched tightly over the ends. Soon half the people are dancing, and the rest are keeping time by clapping their hands. When the dancers and drummers are tired, others take their places. Hour after hour the dancing goes on, and it is very late before the village is quiet for the night.

Some differences to explain. 1. Explain why Bombo wears fewer clothes than you do. 2. Tell how your house is different from Bombo's, and why. 3. Explain why Bombo does not eat beef or lamb, or drink milk, as you do.

¹ Our tapioca is made from the root of the manioc plant.



Courtesy of the Reverend C. M. Yocum

Figure 43. Native women carrying vegetables. They will use some of the vegetables as food for their families, and will sell some to the traders.

Farming in the forest. Bombo's people get some of their food by hunting and fishing, but most of it comes from their gardens. The women do the farming. In the morning we find them working in their gardens near the village.

Bombo's mother and sisters are weeding a patch of corn and manioc. Weeds grow so

thick and fast in this warm, rainy land that they must be pulled every few days or they would soon crowd out the crops. Some of the women are pulling manioc roots, others are digging sweet potatoes, and still others are picking beans. Later in the morning they will all come home with baskets of vegetables on their backs. *See Figure 43.*

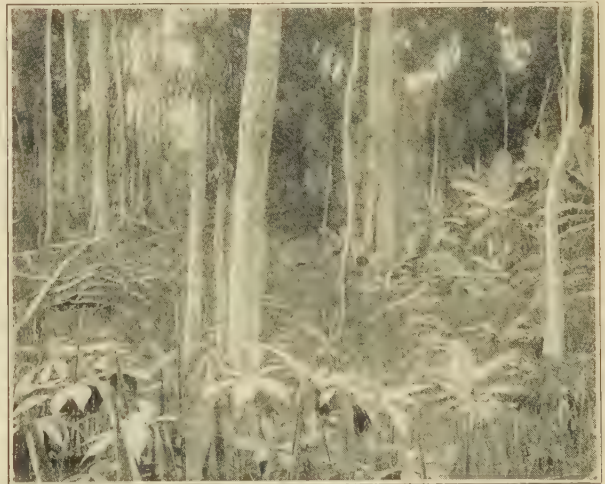
Farming in this warm, damp forest is very different from our farming at home. The forest is so thick that there are very few open spaces where crops can be planted. When land is needed for a garden, the natives have to cut down the trees and clear away the tangled bushes and vines. This is such hard work that they often leave the larger trees standing and plant the crops among them.

Since the weather is always warm, farming is carried on the whole year round. Seeds may be sown any month in the year, and crops grow fast on account of the heat and dampness. As soon as one crop has been gathered the natives plant another. In this way their gardens in the forest provide them with food at all times of year. *See Figures 44 and 45.*



Courtesy of H. L. Shantz

Figure 44. A garden on land where the forest has been cleared away. The crops growing here are corn, manioc, and bananas. Point to a banana plant in the picture. Bananas are raised in almost every native garden, and they are one of the principal kinds of food eaten by the people.



Courtesy of H. L. Shantz

Figure 45. Crops growing among the trees in the Congo forest. This does not look much like a garden, yet it furnishes one of the native families with nearly all their food. The man who owns it will cut down a few more trees each year until at last it will look like the garden in Figure 44.

The sun and the seasons. In the part of the earth where we live the year is divided into four seasons: spring, summer, autumn, and winter. You must have noticed that the winter shadows are much longer than the summer shadows. That is because the sun is much lower in the sky in the winter than in the summer. The lower the sun is in the sky, the more slantingly its rays fall on the earth, and the less heat it gives. The higher it is in the sky, the less slantingly its rays fall on the earth, and the more heat it gives. This explains why winter is our coldest season and summer our warmest season.

In Bombo's country *the sun is high in the sky at all times of the year.* The amount of heat which it gives is so nearly the same every month that Bombo's people do not speak of the four seasons, as we do.

If we visit Bombo's country in March or September, we shall see something that never happens at home. On one day in each of those months the sun is directly over Bombo's head at noon, and his body casts no shadow.

Where we live the sun is highest in the sky in June, but it is never directly overhead.

Picture study. Figures 46, 47, and 48 will help you to understand better why Bombo's country is so much warmer than our own. The boy at the left in the pictures lives in the northern part of our country. We shall call him John. The other boy is Bombo, who, as you know, lives at the equator. John sees the noonday sun in the *southern* part of the sky at all times of the year. Bombo sees the noonday sun in the southern part of the sky during our autumn and winter seasons, but during our spring and summer seasons he sees it in

the *northern* part of the sky.

Study Figures 46, 47, and 48 and their legends carefully, and then work out the "shadow test" on the next page.



Figure 46. John and Bombo pointing to the sun at noon on the day when our summer begins. This is the day when John sees the noonday sun *highest* in the sky. It is one of the two days in the year when Bombo sees the noonday sun *lowest* in the sky.

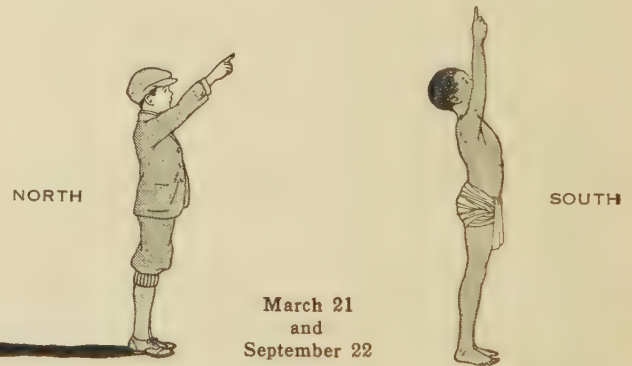


Figure 47. John and Bombo pointing to the sun at noon on the days when our spring and autumn seasons begin. These are the two days in the year when Bombo sees the noonday sun directly over his head. John never sees the sun directly overhead.



Figure 48. John and Bombo pointing to the sun at noon on the day when our winter begins. This is the day when John sees the noonday sun *lowest* in the sky. It is also one of the two days in the year when Bombo sees the noonday sun *lowest* in the sky.

A "shadow test." In the left column below are the beginnings of four sentences. The endings of the sentences are in the right column, but they are arranged in a different order. Read the beginning of each sentence in the left column, and then hunt in the other column for the right ending. Figures 46, 47, and 48 will help you to pass the test.

1. John's noonday shadow is shortest on June 21 because

on those two days the noonday sun is directly over his head.

2. John's noonday shadow is longest on December 22 because

he sees the noonday sun as high in the northern sky in June as he sees it in the southern sky in December.

3. Bombo's noonday shadow is the same length on June 21 and December 22 because

the noonday sun is highest in the sky on that day.

4. Bombo has no shadow at noon on March 21 and September 22 because

the noonday sun is lowest in the sky on that day.

What the pictures teach. The pictures of John show that the sun's rays fall much more slantingly on our country in December than in June, giving much less heat. That helps to explain why winter is so much colder than summer. The pictures also show that the sun's rays fall more slantingly on our country in March and September than in June, but less slantingly than in December. That is why spring and autumn are cooler than summer, but warmer than winter.

The pictures of Bombo show that in June he sees the noonday sun nearly as high in the northern sky as John sees it in the southern sky. Bombo's country, then, gets almost as much heat from the sun in June as our country does. In March and September, when our country gets less heat from the sun than in June, Bombo's country gets *more*. In December Bombo sees the noonday sun just



Courtesy of the Reverend C. M. Yocum

Figure 49. Building a house in the Congo forest. This house is being built for a white man who lives at a trading station. It is larger than the native houses, but is built in the same way. Of what material is the framework? How will the roof be covered?

as high in the southern sky as he sees it in the northern sky in June. That means that *Bombo's country gets just as much heat from the sun in December as in June.*

Now you know why the lands near the equator are warm the year round. The sun is never much lower in the sky than it is in our part of the earth in summer, and most of the time it is higher. Therefore it never gives the lands near the equator much less heat than it gives us in summer, and most of the time it gives them more.

Weather, needs, and work. Since the weather is always warm, Bombo's people need only a few clothes, and they can wear the same kind the year round. Of course they must have food, but they do not need so much to eat as the people of colder countries do. Their only use for houses is for sleeping places and for shelter when it rains, and so little huts are all they need. See Figure 49.

Because they have so few needs, the natives work only a few hours each day. They do most of their work in the early morning or the late afternoon, for the middle of the day is too hot. White people who live in cooler countries often think that the dark-skinned,



Figure 50. Bombo's father climbing a palm tree. Using a rope of fibers as a support, Bombo's father walks up the trunk of the tree. When he reaches the top, he cuts off the cluster of fruit with his sharp knife. He climbs one tree after another until at the end of an hour he has eight or ten clusters of fruit.

people of the warmer lands are very lazy. But when white people go to live in these warm lands, they find that they cannot work all day long as they did at home. Because the weather is so hot, the natives do not *need* to work so hard as the people of cooler countries, and they do not *want* to work so hard.

Making a living in the forest. Although Bombo's people do not have to work very hard, they have to do many different *kinds* of work to get their living in the forest. You already know that they get their own food by farming, hunting, and fishing. They cut down trees in the forest and build their own houses, and they gather the firewood that they need for cooking. They also make many of the things they use.

Years ago, before there were any white traders in Belgian Congo, the people made their simple clothing of grass and the fibers, or threadlike parts, of palm and banana leaves. They hunted with bows and arrows and spears made of wood. They had no iron, and so their arrowheads and spear points were made of bone. For the same reason their knives and other tools were of bone. In those days the natives supplied all their needs by using the materials that they could get for themselves in the forest.

Nowadays the natives who live near the trading stations buy cotton cloth for their clothing. Many of them hunt with guns bought from the traders, and those who still use spears and bows and arrows make the points and heads of iron instead of bone. Most of them have knives and other tools which have also been bought from the traders. If you do not remember how the natives pay for these goods, turn back to page 25 and read about the trading stations again.

Although the traders supply some of the things that the natives need, Bombo's people still make many things for themselves, just as they did long before the traders came. As you walk round the village you will see them doing many different kinds of work in order to supply their needs.

The useful oil palm. Perhaps you will find Bombo's father gathering fruit from the oil palms. These trees grow only in the hot, moist parts of the earth. The fruit grows in bunches as grapes do, only the bunches are much larger. One bunch grows near the top of each tree. Figure 50 shows how Bombo's father climbs the palm trees.

Each fruit is about the size of a date and has a thick skin. Inside, round the hard kernel, there is a yellow oil. When Bombo's father gets home, he will throw the bunches of fruit into a large trough made of a hollow log and tramp on them to squeeze out the oil.



Courtesy of the Reverend C. M. Yocum

Figure 51. Native women making baskets and bowls for storing food and carrying water. The woman in the middle is Bombo's mother. She is weaving a basket from the fibers of palm and banana leaves. The woman at the right is just finishing a basket, and the one at the

left is making a clay bowl. The women dig the soft clay from the river banks, mold it into bowls, and put the bowls in the hot sun to bake until they are hard. The picture shows some bowls baking at the right, and some palm kernels drying in the sun at the left.

Then he will pour off the oil and spread the kernels in the sun to dry. The kernels themselves contain even better oil, but the natives have no machines for crushing them. They used to throw them away, but now they save them to sell to the traders.

The oil palm is the most useful of all the forest trees to Bombo's people. Because they have no cows, they have no butter, and the palm oil takes the place of butter for their bread and for their cooking. The juice from the trunk of the tree is their favorite drink. They use the wood in building their houses, and the larger leaves to thatch the roofs. The fibers of the young, tender leaves are woven into mats and baskets, and the tougher fibers are used to make traps and nets for fishing. Every part of the tree is used in some way.

The women and their work. You already know that Bombo's mother and the other women tend the gardens and do the cooking. They also gather firewood in the forest and bring water from the stream near the village. Of course they take care of the children as mothers all over the world do.

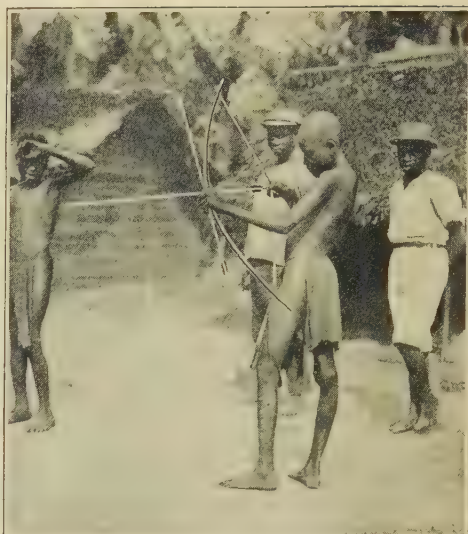
As you walk round the village you will see the women at work making things that they need in their housekeeping. Figure 51 will tell you about some of these things. Study the picture and its legend. Then name all the different things you can find in the picture that the natives get from the forest.

The women also make the simple clothes which they wear. They often make skirts of long palm fibers, but they are happiest when they can get bright-colored cotton cloth.



Courtesy of the Reverend C. M. Yocum

Figure 52. A native making a fish net of palm fibers.



Courtesy of the Reverend C. M. Yocum

Figure 53. Native with bow and arrow.

The men and their work. The men are away from the village much more than the women. They often go fishing in the streams, and when they go on hunting trips they are sometimes absent for several days. They hunt many kinds of wild animals, but the one they are most anxious to kill is the elephant. The elephant provides not only meat, but also something that they can sell. What is it?

Some of the men are away for weeks at a time working as guides, porters, and tea-poy men for white people who are traveling through the forest. Others take white men on hunting trips and help them to collect wild animals for the museums and zoos at home.

When the men are at home they spend a good deal of time making the things that they need for fishing and hunting. We shall find some of them making fish traps and fish nets of palm fibers. *See Figure 52.*

Others are making arrows and spears of wood. They whittle the wood with sharp knives and rub it smooth with stones. Then they fasten on the iron heads with palm fibers. Although many of the natives now have guns, they can kill the fiercest animals with their homemade weapons. *See Figure 53.*

The boys and girls. Bombo and his friends do not go to school, for there is no teacher in the village. There are schools for the native children in the larger towns on the Congo River, but these schools are too far away for the children of the village to attend. Perhaps you can visit one of these schools on your way down the river. *See Figure 54.*

Bombo will never learn to read and write unless he moves to a town where there is a school. But he and his playmates are learning many other things which they will need to know when they are older.

The boys are learning to fish and to set wooden traps for small animals. Their fathers have made them little bows and arrows and small spears. Almost every day the boys practice shooting the arrows and throwing the spears, for they want to be good hunters when they grow up.

The girls are learning to help their mothers in the daily work. Bombo's sisters can cook and make their clothes almost as well as their mother.

The children of the forest have very few toys, but they are happy just the same. They dance and play games and have just as much

fun as you do. They like their home in the forest so much that they would be very unhappy if they had to leave it.

We leave the village. The time has come for us to say good-by to Bombo and his people. We climb into our teapoys and start back through the forest to the trading station. Bombo's father is going with us, for he has some palm kernels to sell to the traders. When he returns to the village, he will bring presents to his family. Bombo's mother and sisters will have pieces of pretty cotton cloth for new dresses. Perhaps Bombo will have a little knife all his own.

Finding reasons. In the left column below are the beginnings of six sentences. In the right column are the endings of the sentences, but they are in a different order. The beginning of each sentence tells a *fact* about Belgian Congo. The ending of each one tells the *reason* for the fact. Read the beginning of each sentence in the left column, and find the correct ending for it in the right column.

- | | |
|---|--|
| 1. The weather in Belgian Congo is always warm because | their country is so rainy. |
| 2. Plants grow fast there because | there are rapids at places in it. |
| 3. The natives build houses with steep roofs because | the sun is high in the sky at all times of the year. |
| 4. The natives raise crops the year round because | the forest is so thick. |
| 5. It is easier to travel on the rivers than through the forest because | the weather is so warm and damp. |
| 6. Parts of the Congo River are not navigable because | there is no winter season when crops cannot grow. |

Something to think about. While you were studying about Bombo, did you think how much he has to depend on his own family for



Courtesy of the Reverend C. M. Yocum

Figure 54. A school for the natives. These children of Belgian Congo are learning to write by making letters with their fingers in fine white sand.

the things he has to eat and wear and use? If your family had to raise almost everything that they eat and make nearly everything that they wear and use, they would think that life was very hard. Make a list of the people who help you to get the things you need every day. You might begin with the grocer or the milkman. Make a list of the people who help Bombo to get the things he needs.

Making choices. 1. Which of the words listed below best describe the Congo forest?

dark	moist	cold	silent
light	dry	hot	noisy

2. Which of the words listed below best describe the navigable part of the Congo River?

deep	narrow	muddy
shallow	wide	clear

Planning a program. Before you start on your journey to Nandla's land, you may wish to entertain some other class in your school with a program of talks telling about Bombo and the way in which he lives. In your language class you may plan talks on the following subjects:

- The trip up the Congo River
- Traveling through the Congo forest
- A day in Bombo's village
- The oil palm and its uses



Figure 55. A map of North America. The line of arrows marks the route which our boat will follow from the mouth of the St. Lawrence River northward to the part of Baffin Island where Nandla's people live.

ESKIMOS OF THE FAR NORTH

A VOYAGE TO BAFFIN ISLAND

The north pole and the south pole. Have you ever read of Rear-Admiral Robert E. Peary who discovered the north pole, or of Commander Richard E. Byrd who flew over the north pole in an airplane? If you have, perhaps you know that the *north pole* is the point on the earth that is *farthest north* from the equator.

If you could fly over the part of the earth surrounding the north pole, as Commander Byrd and his companion did, you would see below you a large body of water mostly covered with rough, jagged ice. This body of water is the Arctic Ocean. Point to the Arctic Ocean and the north pole on the map (Figure 55) opposite this page.

Perhaps you have also read about Captain Roald Amundsen, the first man to reach the south pole. The *south pole* is the point on the earth that is *farthest south* from the equator. Figure 20 on page 14 shows that the south pole is in the frozen continent of Antarctica.

The Far North and its people. The part of North America which borders the Arctic Ocean is a land of ice and snow. When white men first visited that part of our continent, they found living there tribes of Eskimos who had never heard of the warmer lands to the south. They thought that all the world was cold, and that they were the only people in it. They soon learned better, for white men from warmer countries began to go to the Far North in ships to catch whales and seals in the icy waters. Today there are trading stations along the shores of the northern seas, and the Eskimos now trade with the white men much as Bombo's people do.

Nandla is an Eskimo boy. The Eskimos have yellowish-brown skin and straight black

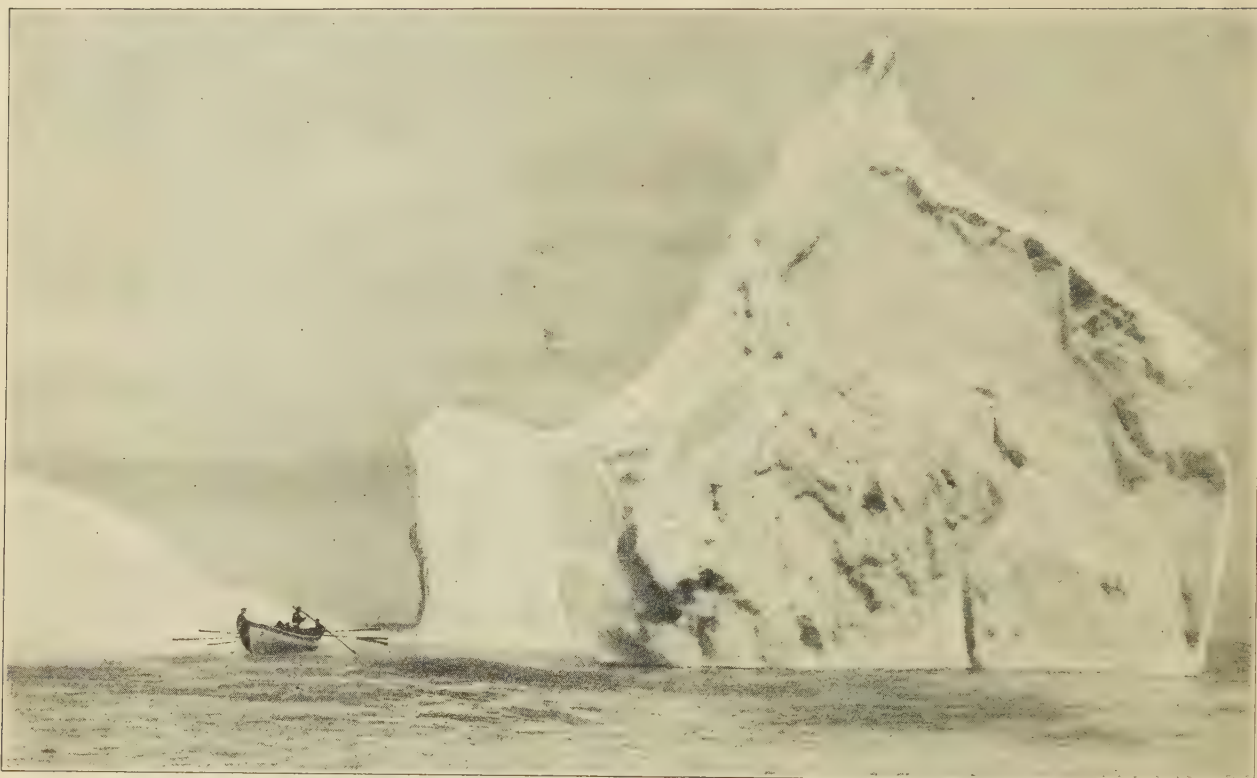
hair. Some people believe that they belong to the *yellow race*, like the Chinese and Japanese, whose homelands are in Asia. Others believe that they belong to the *red race*, like the Indians. If the Eskimos are people of the yellow race, they probably came to North America from Asia long, long ago.

Starting for Nandla's land. Nandla lives on the eastern shore of Baffin Island. Find this island on the map (Figure 55). Let us suppose that it is July, and that we are starting for Baffin Island on a boat which is carrying goods to the trading stations. Summer is the only time when ships can sail to the Far North, for the northern seas are frozen over during the rest of the year.

We shall start on our voyage from Montreal, a seaport of the country which lies north of our own country. Find the name of that country on the map (Figure 55), and point to Montreal. The map shows that Montreal is located on the St. Lawrence River. This river flows northeastward into the Gulf of St. Lawrence, which is a part of the Atlantic Ocean. A *gulf* is a part of an ocean or a sea which reaches into the land. Many bodies of water of this kind are called *bays* instead of gulfs. Point to the Gulf of St. Lawrence on the map.

The St. Lawrence River is a great highway into North America just as the Congo is into Africa. Montreal is a long distance from the Atlantic Ocean, yet it is a seaport because large ocean ships come up the river to its wharves.

Our boat sails from Montreal *down* the St. Lawrence to its mouth. From there it follows the route marked by the line of arrows on Figure 55. The arrows show that we cross the northern part of the Gulf of St. Lawrence and then pass through a very narrow strip of water to the Atlantic Ocean.



© Wide World Photos

Figure 56. A huge block of floating ice known as an iceberg. The boat at the left gives you some idea of the size of the iceberg. The part that you can see above the water is less than one seventh of the whole

A narrow strip of water connecting two larger bodies of water is called a *strait*. You will have no trouble telling what a strait is if you will remember that the word *strait* means "narrow." Some straits are many miles wide, but they are always narrower than the bodies of water which they connect.

The strait through which we pass from the Gulf of St. Lawrence to the Atlantic Ocean lies between the island of Newfoundland and a part of North America which is called Labrador. Point to this strait on Figure 55. When our boat reaches the ocean, it heads toward the north pole. In what direction are we traveling now? Are we sailing toward the equator or away from it?

A dangerous voyage. The voyage to Baffin Island is much more dangerous than the voyage to Africa. For one thing, there is a great

block of ice. The rest is below the water. Icebergs are very dangerous, for as they melt they sometimes turn over in the water or break to pieces suddenly. If a ship is too near when this happens it is likely to be wrecked.

deal of fog, and in foggy weather there is always danger of running into another ship. Dangerous as the fog is, there is something that the sailors of the northern seas fear even more. They must always be on guard against the ice which floats in the water.

From Labrador northward there are many places where the water is covered with floating ice called *pack-ice*. It is thick and rough, and it moves very fast when the wind blows. In some places it is frozen into a solid mass, and our boat has to cut its way through. In other places there are long stretches of open water between the masses of pack-ice. We feel safer sailing through these open places, but at any moment the wind may begin to blow hard and drive the ice against the boat. If this happens, our boat may be crushed, or it may be caught in the ice and held fast.

Besides pack-ice, there are icebergs in the northern seas. Nearly every day we pass these giant blocks of floating ice. We keep as far away from them as possible, for ships much larger than ours have been sunk in collisions with icebergs. See Figure 56.

These huge icebergs come from the island of Greenland. Find Greenland on Figure 55. Name the two bodies of water that separate it from Baffin Island. Greenland is the second largest island in the world. You will remember that the largest island of all is the smallest continent. Name it.

Most of Greenland is covered with a thick cap of ice and snow which never melts away. Along the shores the snow disappears in summer, but the rest of the island is buried under the ice cap the whole year long. There are ice caps on Baffin Island too, but they do not spread over so much of the land. From the great ice cap on Greenland long tongues of ice called *glaciers* move slowly down to the shores. See Figure 57.

At the water's edge huge blocks of ice break from the ends of the glaciers and float away. These blocks of ice are the icebergs. They are carried southward by a current of cold water which comes from the Arctic Ocean and moves through Baffin Bay to the Atlantic Ocean. This current of cold water is called the *Labrador Current*.

Near Newfoundland the cold Labrador Current meets a current of warmer water from the south. This warm current is called the *Gulf Stream*, because it comes from a part of the Atlantic Ocean known as the Gulf of Mexico. This gulf is much nearer the equator than the Gulf of St. Lawrence is.

Turn to the map on page 158 and find the Labrador Current and the Gulf Stream. You will see that the Gulf Stream moves northward along the eastern side of North



K. H. Goddard, Carnegie Institution of Washington

Figure 57. A glacier in Greenland. This great tongue of ice comes from the ice cap, and moves slowly down to the shore.

America. It brings warmer water to the northern part of the Atlantic Ocean. The warmer water helps to melt the icebergs, and in summer they are not often seen south of Newfoundland.

Using new words. Since you started on your trip to the Far North you have learned the meanings of five new words. Prove that you can use them correctly by giving the right word to fill each blank in the following sentences:

1. A narrow strip of water which connects two larger bodies of water is a _____.
2. The parts of large bodies of water that reach into the land are called _____ or _____.
3. A huge block of ice floating in the water is an _____.
4. A mass of ice moving slowly over the land is a _____.

Can you finish these sentences? Each of the sentences begun below needs an ending. Read each one, and try to finish it correctly.

1. Ships cannot sail to the Far North in winter because _____.
2. Travel on the northern seas is dangerous because _____.
3. Ships try to keep away from icebergs because _____.
4. Icebergs are not often seen south of Newfoundland in summer because _____.

Crossing the arctic circle. As we sail northward through Davis Strait, we cross the *arctic circle*. Like the equator, the arctic circle is a line which is drawn on globes and maps to help us in measuring distances and finding places on the earth. Trace the arctic circle on the map (Figure 55), and point to the part of Baffin Island which lies north of it. That is the part of the island where Nandla and his family live.

In the Southern Hemisphere there is another line which you may think of as the twin of the arctic circle. It is called the *antarctic circle*, and it is just as far south of the equator as the arctic circle is north of the equator.

If you have a globe in your schoolroom, trace the arctic and antarctic circles on it. This will help you to see that these lines are circles, and that one is the same distance from the equator as the other. You will also see that nearly all the frozen continent of Antarctica is south of the antarctic circle.

You have already learned that the warmest parts of the earth are near the equator. The coldest parts are between the arctic circle and the north pole, and between the antarctic circle and the south pole. These are the parts which are farthest from the equator.

Why the Far North is so cold. We call the part of the earth between the arctic circle and the north pole the Far North because it is so far north of the equator. In the same way we call the part of the earth between the antarctic circle and the south pole the Far South because it is so far south of the equator.

The reason that the Far North and the Far South are so much colder than the part of the earth near the equator is because *they get less heat from the sun*. You already know that the lower the sun is in the sky, the more slantingly its rays fall on the earth, and the less heat they give. Figures 58 and 59 will

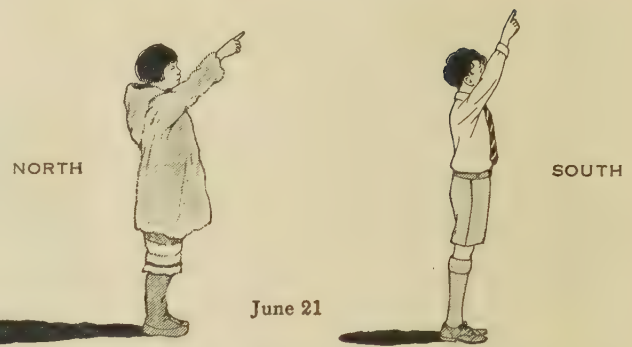


Figure 58. Nandla and John pointing to the sun at noon on the day when summer begins. On which part of the earth do the sun's rays fall more slantingly, — the part where we live or the Far North? Which boy's shadow is longer in June?

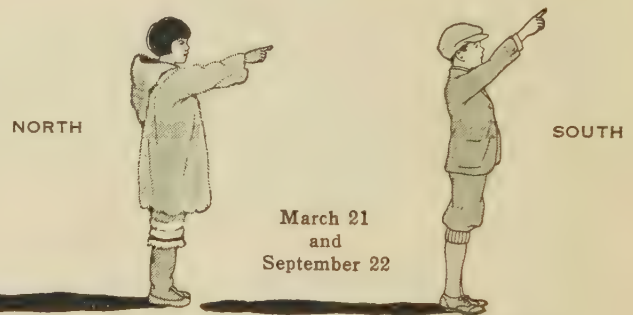
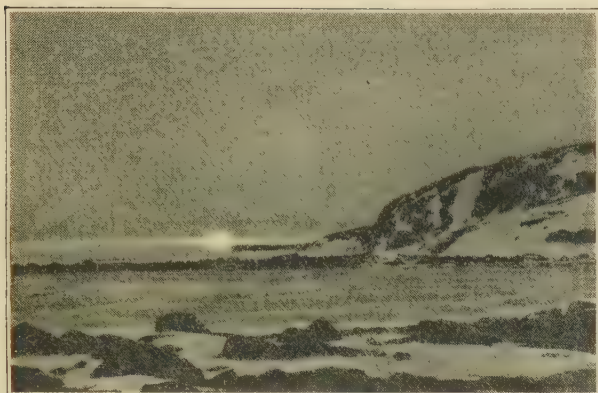


Figure 59. Nandla and John pointing to the sun at noon on the days when spring and autumn begin. Notice how low in the sky Nandla sees the noonday sun, and how much longer his shadow is than John's. What does this suggest to you about the spring and autumn weather in Nandla's land?

help you to understand why the Far North is so cold. They will also teach you why the Far South is so cold, for the reason is the same. Study the pictures and their legends carefully. Remember that Nandla lives north of the arctic circle, and that John lives in our country.

The pictures show that the sun's rays fall much more slantingly on the lands of the Far North than they do on the part of the earth where we live, and that even in summer Nandla does not see the noonday sun so high in the sky as we see it in spring and autumn. That helps to explain why the Far North is so cold, and why there is ice in the northern seas even in the summer time.



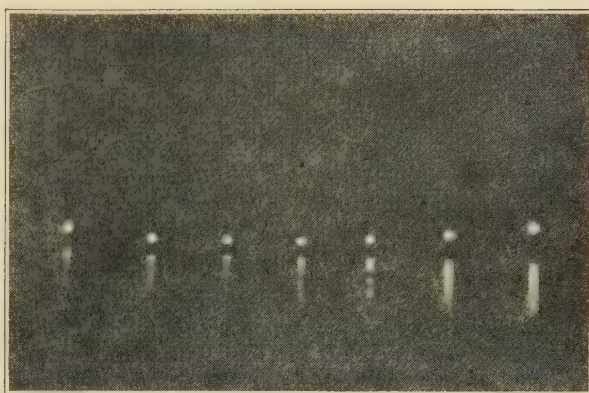
Courtesy of Donald B. MacMillan

Figure 60. A sunset picture taken in the southern part of Baffin Island at quarter of eleven on a summer night. About quarter past one the next morning the photographer could have taken a picture of the rising sun. How long was that night? Do we ever have nights as short as that in the United States?

Long days and short nights. As we travel northward we notice that the daylight lasts much longer than it ever does at home. By the time we reach Davis Strait the sun is rising between 1 and 2 o'clock each morning and setting between 10 and 11 o'clock each night. Even after it sets there is no real darkness, and during the short night there is light enough for reading. *See Figure 60.*

The land of the midnight sun. After we cross the arctic circle, we are in a part of the world which people call "the land of the midnight sun." They mean a part of the earth where, for a certain length of time each year, the sun does not set at all, and so can be seen at midnight. At all places on the arctic circle there is just one day in the year (June 21) when the midnight sun can be seen. Study Figure 61 and its legend.

Farther north, where Nandla lives, there are about seven weeks of daylight, when the sun can be seen all the time. During this time (from the last of May to the middle of July) the sun seems to move in a circle round the sky each day. It is highest in the sky every day at noon and lowest at midnight, but in all those weeks it never sets.



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Figure 61. A picture of the midnight sun. The photographer was at a place on the arctic circle on June 21. He took seven pictures of the sun, one every fifteen minutes from quarter past eleven at night until quarter of one in the morning. Just at midnight the sun was lowest in the sky, but it did not set.

In winter Nandla's people have seven weeks of darkness when they do not see the sun at all. These weeks (from the last of November to the middle of January) they call the "winter night." During this time there is a glow of light in the southern part of the sky each day at noon, but the sun never rises.

At the north pole the daylight lasts for six months, from March 21 to September 22. Not once in all those months does the sun set. The other six months at the north pole are months of winter night, for the sun does not rise from September 22 to March 21.

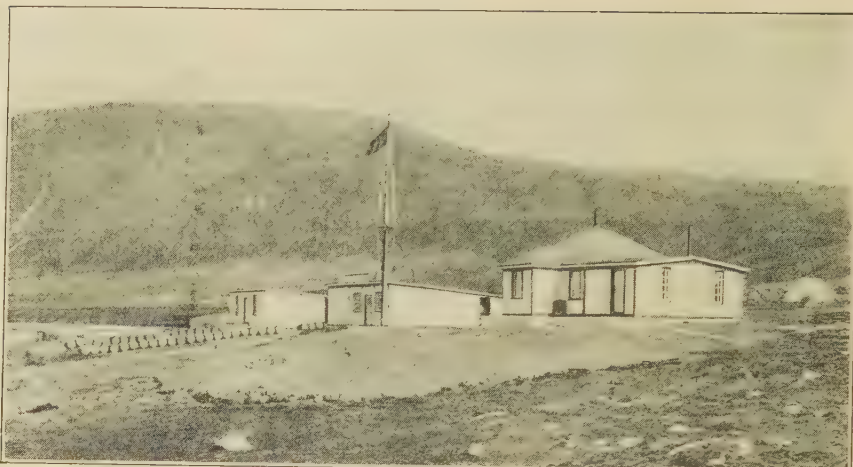
Baffin Island and its people. As our ship nears the shore of Baffin Island we can see rocky hills rising steeply from the water. Between the hills narrow bays, or inlets, lead far into the island. There are patches of snow here and there on the hillsides even though it is summer. In some places the ground is covered with grass and bright-colored flowers, but most of the land is bare and rocky.

Not a tree is to be seen, for the winters are so long and cold that trees cannot grow. There are no farms or gardens on the island either, for the summers are too short and cool



Courtesy of Donald B. MacMillan

Figure 62. An Eskimo boy in summer clothes — bearskin trousers, sealskin coat, and fur-lined boots. What does this tell you about the summer weather on Baffin Island?



Courtesy of Hudson's Bay Company

Figure 63. A trading station on Baffin Island. This picture was taken in the summer, when the boats of the trading company go to the Far North. Notice how bare the land is. Why are there no trees? Where do you suppose the wood for the buildings came from? The Eskimos visit the trading stations in the summer to exchange fur-covered skins for things that they need.

for most kinds of grain, fruit, and vegetables to ripen. A few wild berries ripen in the summer, but the people would soon starve if they had nothing else to eat.

The only way Nandla's people can live in this cold, treeless country is by hunting the wild animals. There are seals, walruses, and whales in the waters, and bears, musk oxen, caribou, foxes, and other animals on the land. The Eskimos eat the meat of all these animals, and make clothes from the skins of those which have coats of fur. See Figure 62.

Nandla's people do not live in one place all the time, as Bombo's people do. They are *nomads*. That means that they are wandering people who move from one place to another during the year instead of living in the same place all the time. They move about because they must find wild animals to kill in order to have food and clothing.

The Eskimos move so often that they do not build houses, as people do who live in one place all the year round. The only houses on Baffin Island are the small buildings at the trading stations, and the trading stations are long, long distances apart. See Figure 63.

Nandla and his family are camping near a trading station, waiting for our boat to come. Nandla's father wishes to sell some furs to the traders and to buy a new gun from them.

Sentences to finish. Below are the beginnings of eight sentences. Read each one, and try to finish it correctly. If you are not sure of the right ending, turn back to the page in this book which will help you, and review what you learned there.

1. The equator divides the earth into two parts called the _____ and the _____.
2. The parts of the earth near the equator are warm because _____.
3. The Far North and the Far South are cold because _____.
4. The ocean in the Far North is called the _____.
5. The cold, frozen continent in the Far South is called _____.
6. There are no trees or gardens on Baffin Island because _____.
7. Nandla's people are called nomads because _____.
8. They do not live in one place all the time because _____.

ESKIMO LIFE IN SUMMER

The summer camp. The families of Nandla's tribe have put up their tents on a rocky hillside near the trading station. The Eskimo tent is called a *tupik*. It is made of sealskins sewed together firmly and stretched over a framework of poles. The seal-skin covering is held tight to the ground by heavy rocks, which keep it from blowing in the wind. See Figure 64.

The back part of the *tupik* is used for sleeping. It is filled with heather, a plant which grows in the Far North as well as in other parts of the world. Covered with deerskins, heather makes a comfortable bed for the family. There are deer-skin blankets too, for the nights are cold.

In the front part of the *tupik* are the things that Nandla's mother uses in keeping house. Among them are some leather buckets and some cooking dishes hollowed out of stone. There are also several homemade "lamps," which are used to give light and heat. They too are made of stone, and are shaped somewhat like shallow trays. The oil that is burned in them comes from walruses, seals, and other sea animals. Hanging from the tent poles are seal-skin bags filled with oil for the lamps.

Nandla's people do not want many furnishings in their homes, for everything must be packed up and moved several times a year.

The busy summer season. Summer is a short season in the Far North, but the summer days are long. For some weeks the sun shines night and day, and during the rest of the summer it sets very late at night and rises very early in the morning. Summer is the busiest season of the year for the Eskimos, for they must work hard to get ready for the long, cold winter.



Courtesy of Donald B. MacMillan

Figure 64. Nandla and his family in front of their *tupik*. They live in the *tupik* in the summer, when they wander about hunting wild animals. They camp wherever they find the animals, and stay as long as the hunting is good. Nandla is fourth from the right in the picture.

On this summer afternoon the men are out hunting, and the women are at work round the camp. Some of them are cleaning the skins of animals which the men have killed. Others are making winter clothes for their families. They cut the fur-covered skins with sharp knives and sew them together neatly. Their needles are of bone, and their thread is made of the sinews of animals. The sinews are the cords by which the muscles are attached to the bones.

The older boys and girls are down on the shore hunting for driftwood. They gather every piece of wood that comes drifting in on the waves. Wood is so scarce in this treeless land that a board or a pole is a real prize.

Nandla and the other children are playing with the dogs. Every Eskimo family has a team of dogs to drag their sledges over the snow when they travel in winter. Nandla's father has eight fine dogs.

Hunting walrus. Nandla's father and the other men are out on the bay hunting walrus. They are paddling swiftly over the water in their long, narrow *kayaks*, or canoes. Each



Figure 65. Walrus lying on floating cakes of ice. Walrus are not fish, but big animals which live in the water most of the time. On summer days they often climb up on the floating ice to enjoy the sun. When they hear the hunters coming, they dive into the water.



Courtesy of Revillon Frères

Figure 66. Nandla's father in his kayak. The kayak is a light framework of driftwood or bone covered with tightly stretched sealskin. It is just big enough for one man. The Eskimos handle their kayaks so well that they are safe in them even when the water is rough.

man has a harpoon and a spear. Figure 78, on page 51, shows how a harpoon looks. A spear looks much the same. After you have studied that picture, study Figures 65 and 66 and their legends.

Although the walrus is an animal that lives in the sea most of the time, it cannot breathe under water. Several times an hour it has to come to the surface for air. As soon as a walrus raises its head above water, the nearest hunter paddles quietly toward the animal and throws his harpoon at it. The harpoon is made so that the sharp point, or head, comes off and remains buried in the animal's flesh, while the wooden handle floats away. Attached to the head by a long line is a sealskin blown up like a balloon.

The wounded animal dives and swims away, with the sealskin balloon, or float, dragging behind. The hunter follows closely, paddling hard and fast. Soon the walrus comes to the surface again and rises in the water to attack the hunter with its sharp tusks. But before the animal can strike, the hunter kills it with his spear. The walrus falls back in the water, and the sealskin float keeps its body from sinking.

Walrus-hunting is dangerous work. If the hunter misses his aim, the animal will overturn the kayak, and the man may be killed. Often the walrus fights fiercely for some time, and the hunter is badly hurt. But in spite of the danger the Eskimos must capture these and other sea animals in order to live.

The uses of the walrus. If Nandla's father kills a walrus today, the other hunters will help him tow it home. Then Nandla's mother and grandmother will skin it. Beneath the tough skin, or hide, is a thick layer of fat, which is called blubber. This is taken off with the hide. Later, Nandla's mother will scrape the blubber from the hide and pound some of it to squeeze out the oil. The oil will be burned in the stone lamps. The rest of the blubber will be eaten by the family. Blubber is an important food for the Eskimos, for they have no other kind of fat.

Beneath the blubber is the flesh, or meat. Nandla's mother will cut up the meat and store it away under a pile of rocks, where it will soon freeze. Freezing will keep it from spoiling. When winter comes and food is scarce, this supply of frozen meat may save the family from starvation.

From the walrus hide Nandla's father will make leather straps and harness for the dogs. He will take the tusks to the trading station and exchange them for knives, matches, and bullets for his gun. Although the ivory of the walrus tusks is not so valuable as the ivory of the elephant tusks of Bombo's land, the traders are always glad to buy it.

Even the sinews and bones of the walrus are saved. The sinews will be dried and used for thread. From the bones Nandla's father will make fishhooks and spear points for himself, needles for his wife, and toys for the children. The Eskimos make as much use of the walrus as Bombo's people make of the oil palm.

During the summer the Eskimos hunt seal, narwhal, and whale as well as walrus. These too are sea animals. The seal and the narwhal are smaller and less dangerous than the walrus, but they are useful in the same ways. The whale is the largest sea animal of all. You will find pictures of the wild animals of the Far North on page 159.

There is hardly a day in the summer when the men do not go hunting. Each one must get plenty of meat to be stored away for his family to eat during the winter, and plenty of fur-covered skins to keep them warm. Otherwise they will be cold and hungry, and some of them may even die before the winter is over.

Birds and eggs. There are thousands of wild ducks, wild geese, sea pigeons, sea gulls, and other birds in the Far North in the summer. These birds spend the winter in the warmer lands farther south, but when spring comes they fly to the north. Here they build their nests and lay their eggs on the rocky shores of the northern seas.

The Eskimo women and children gather the eggs from the nests, and catch the birds in nets. The people eat both birds and eggs during the summer, but they also store away



Courtesy of Donald B. MacMillan

Figure 67. Eider ducks and eggs. In the summer the Eskimos catch large numbers of eider ducks. They eat the meat of the birds and use the soft feathers, or down, to line their hoods.

many eggs in some outdoor place. The eggs freeze, and freezing keeps them from spoiling. In the winter, after the birds have flown south, the Eskimos are glad to have the eggs to eat. See Figure 67.

Telling Bombo about Nandla. Suppose that after your visit to the Far North you should go back to Bombo and tell him about Nandla. Here are some of the questions that Bombo would probably ask you. Try to answer them so well that Bombo would understand why he and Nandla live so differently.

1. Why does Nandla wear fur clothes?
2. Why doesn't he eat fruit and vegetables and palm oil, as I do?
3. Why does his mother burn animal oil instead of wood when she does her cooking?
4. Why doesn't Nandla live in one place all the time, as I do?
5. Why does Nandla live in a tent in the summer time?
6. Why does his father spend so much time hunting wild animals?

Something to do. Watch the newspapers and magazines for interesting pictures of the Far North and its people. Perhaps you can make a booklet of Far-North pictures to show to the other children in your school.



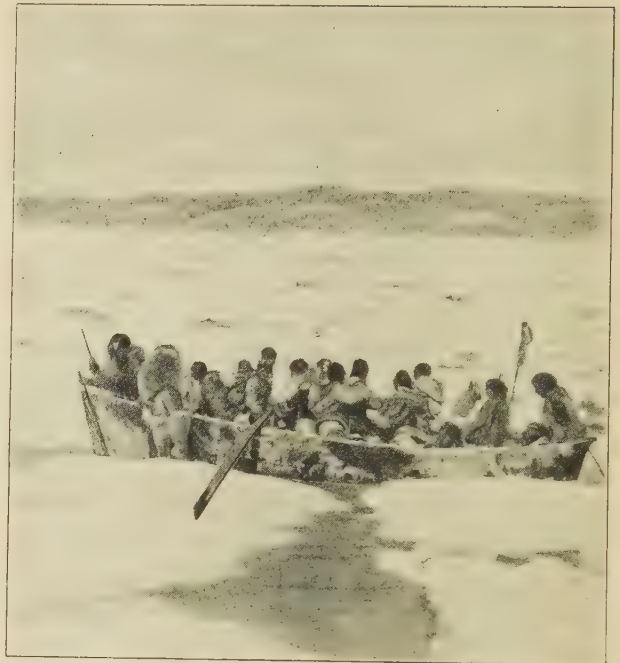
© Lomen Bros.

Figure 68. Caribou, or wild reindeer. There are great herds of these animals in the Far North. They feed on "reindeer" moss all the year round. In the winter time they get the moss by scraping away the snow with their sharp hoofs.

A trip to the hills. Nandla enjoys the days in camp by the seashore, but he is looking forward to something even better. Far up in the hills large herds of caribou, or wild reindeer, are feeding on a kind of moss which grows in the Far North. Soon Nandla's people will join the other Eskimo tribes in the great reindeer hunt. *See Figure 68.*

When the day to start comes, the tupiks are taken down, and all the family belongings are tied up in bundles. Then everything is packed into the traveling boats. These are called *umiaks*. The men sit at the ends of the boat where they can watch for seals and other animals. The women take the rowing seats, and the children and dogs crowd into the space that is left. *See Figure 69.*

The women pull on the oars, and off go the umiaks, heading up an inlet, or narrow bay, toward the hills. When they reach the end of the inlet, the Eskimos unload the umiaks,



Courtesy of Revillon Frères

Figure 69. The Eskimo umiak, or traveling boat. The umiak is a big boat, much larger than the kayak. Its framework is of heavy driftwood covered with thick leather. There are oars for rowing, and a sail to use when the wind is good.

pull them up on the shore, and hide most of their things in caves in the rocks. They must walk the rest of the way, and so will carry only what they need most. *See Figure 70.*

The holiday week. The tramp ends at a place in the hills where the tribes meet each year. Many of the people have not seen one another since last summer, and everyone is eager to hear the year's news and to tell of his luck in hunting. The tupiks are put up, and for a whole week the Eskimos have a wonderful holiday.

Every day there are wrestling matches, races, and contests in shooting and spear-throwing between the men of the different tribes. There are races and contests for the boys too, and Nandla thinks these are the most fun of all. Every evening the Eskimos spend hours telling stories, playing games, and singing songs. These are the happiest days of all the year for Nandla's people.

Hunting the reindeer. When the holiday week is over, each tribe goes to its own hunting ground. There the tupiks are put up and work begins again. Every morning the men go out to look for the reindeer. If they are lucky enough to find a herd, they send for the women to come and help them.

The women creep up quietly behind the herd, and hide among the rocks. Suddenly they jump out and beat on the rocks with their leather coats. The reindeer, frightened by the noise, run toward the place where the hunters are waiting with their guns or bows and arrows. When the animals are near enough, the men begin to shoot. *See Figure 71.*

The reindeer that have been killed are carried back to the camp. Then the meat is cut up so that it can be carried easily, and the skins are cleaned. The deerskins will make warm clothes and blankets for Nandla's people for winter use.

When the reindeer hunt is over, the Eskimos start back to the inlet. If the hunting has been good, everybody is heavily loaded, for there are big bundles of meat and deerskins to be carried. Even the children and dogs have little packs strapped on their backs. It is a long, hard tramp, and everyone is glad to reach the inlet. There the Eskimos load the umiaks and then row down to the coast.



Courtesy of Revillon Frères

Figure 70. Tramping to the hunting grounds. Notice how the Eskimos carry their belongings when they travel on land in the summer.



Figure 71. An Eskimo shooting with a bow and arrow. Many of the Eskimos now use guns which they buy from the traders, but they are all very skillful in shooting with bows and arrows.

The end of summer. When the Eskimos reach the camping place where we first found them, they stop for a few days to rest and to get the meat which they stored away in the summer. But they do not stay long. September has come, and most of the birds have flown south. Already there is a little snow on the ground and a thin coating of ice on the bay. Nandla's people must start for their winter home before the ice gets so thick that the umiaks cannot be used.

Once more everything is packed in the traveling boats. This time the Eskimos row out on the bay and along the coast, camping each night on the shore. After several days they reach their winter home. Every year the tribe returns to this place to spend the winter in a village of snow houses.

An Eskimo program. Plan a program of talks to tell the children of another class in your school how Nandla's people live in the summer. Below are some subjects you may talk about. Perhaps you can find some pictures to make the program more interesting.

An Eskimo tupik

Hunting walrus

Uses of the walrus

Eskimo boats

An Eskimo holiday

Hunting reindeer

The work of the Eskimo women



Courtesy of Revillon Frères

Figure 72. Nandla's father building the igloo. The first ring of snow blocks is in place, and Nandla's father is adding the second. The Eskimos build the igloos so quickly that the village is finished in a day.



Courtesy of Revillon Frères

Figure 73. Nandla filling the cracks with snow. Every crack must be packed tight to keep out the wind.

ESKIMO LIFE IN WINTER

Building the igloos. As soon as there is snow enough, Nandla's people build their winter houses. These are called *igloos*. First the women and children trample the snow that is to be used for the igloos to pack it down hard. When it is almost as hard as ice, the men cut out big blocks and fit them together firmly in the shape of a huge bowl turned upside down. As the men fit the blocks together, the women and children fill the cracks with snow. *See Figures 72 and 73.*

After the igloo has been built, the window must be put in. A hole is cut high up on the side, and a thick piece of clear ice is set into it. The edges are packed with half-melted snow, which freezes and holds the ice window fast.

When the igloo is finished, it is a round house with thick walls of solid snow. A small hole in the top lets the air in and the smoke out. A snow block is used to stop up this hole whenever the family wishes it closed. A low opening on one side of the igloo leads into a smaller snow house of the same shape. This second house is like a closed porch, and it helps to keep the main part of the igloo warm. It is also a storeroom for meat and

blubber, dog harness, and weapons. The entrance to the igloo is through this storeroom. *See Figure 74.*

Inside the main igloo, opposite the opening to the porch, is a broad bench, or platform, of hard snow. On each side are two smaller benches. The largest one is the sleeping bench. Nandla's mother spreads it with heather, which she gathered during the summer, and then throws soft deerskins over it. Rolled up on the bench are thick fur rugs, which are used as blankets.

The other snow benches are used as seats and shelves. On them Nandla's mother keeps the lamps, cooking dishes, knives, and other things that she needs in her housework. These are the only furnishings in the igloo, for the snow house is very small. If there were much more in it, there would be no room for the family. *See Figure 75.*

Nandla is always happy when his father has finished the igloo and it is ready for the family to move into. He knows that the lamps will warm the igloo, and that the thick snow walls will keep the heat inside. No matter how cold the winter may be the family will be warm in the little snow house.



Courtesy of Revillon Frères

Figure 74. Nandla's father coming out of the main part of the igloo. He has finished the snow house, and is now ready to build the little snow porch on this side. Notice the size of the doorway. Can you think why Nandla's father makes it so small?

Winter clothes. With the coming of the cold weather the Eskimos put on their winter clothes. Both men and women wear bear-skin trousers, long deerskin stockings, and knee boots of seal leather or reindeer hide. Two sealskin coats are worn in the coldest weather. The inner one has the warm fur inside against the Eskimo's skin, and the outer one has the fur on the outside. The coats have fur-lined hoods. The men's hoods fit closely round the head, but the women's hoods are larger and looser so that the babies can be tucked into them. The children dress like their parents. Bundled up in two coats, with their fur hoods pulled over their heads, they can play out of doors without minding the cold.

Winter weather. The first winter storm is soon followed by others. In a few weeks the land is buried under the snow, and the bay is covered with solid ice. The air is bitterly cold, and if the people stay out of doors too long their cheeks and noses freeze. There are some days when they cannot go out of the igloos at all because of the terrible winds and snowstorms.



Courtesy of Revillon Frères

Figure 75. Nandla's mother cooking in the igloo. She is melting some snow in a stone dish which hangs above the "lamp." When the snow has melted and the water is hot, she will use it in making a meat stew. You can see a big piece of meat at the left.

In the winter the nights are much pleasanter than the days. If the sky is clear, the stars twinkle brightly, and when the moon is up, the snow glitters and sparkles in its light. Most beautiful of all are the long streaks of colored light that often stream across the sky. These are called the "northern lights," and it is a wonderful sight to watch them.

The winter night. As the weeks go by the nights grow longer and longer, and the days grow shorter and shorter. At last there comes a day when the sun does not rise. For almost two months Nandla's people will not see it again. These two months form the period of the "winter night." During this time even the clear days are dark and gloomy. At noon there is a faint glow in the southern part of the sky, but it soon fades away.

Something to do. You will find it interesting to make a list of the ways in which winter in Nandla's land is different from winter where you live. Make as long a list as you can, and then compare it with the lists made by your classmates to see if you have left out anything. Perhaps your teacher will let the whole class work out a list to be written on the blackboard.



Courtesy of Revillon Frères

Figure 76. An Eskimo family starting on a sledge trip. The sledge is made of pieces of driftwood, and the runners are covered with strips of smooth bone. It is drawn

by a team of dogs. The driver has no reins, but he carries a long sealskin whip. He directs the dogs by shouting at them, and makes them run by cracking the whip.

Sledge trips. Instead of dreading the winter night, the Eskimos look forward to it, for this is the time of year when they take long trips to call on their friends in other villages. On these trips they use their sledges and dog teams. This is their only way of traveling in the winter. *See Figure 76.*

When Nandla's family go visiting, they load their sledge with food, fur blankets, cooking dishes, lamps, and weapons. Then they harness the dogs to the sledge, with the best one as leader. The women and children ride on the loaded sledge, but Nandla's father and older brother run behind, shouting at the dogs and cracking the whips.

The Eskimo families often travel during the moonlight nights and rest during the dusky days. When the dogs are tired, they are unharnessed and given a big meal of raw meat. Then they dig holes for themselves in the snow, and curl up for a long sleep.

It takes only an hour or two for the men to build small igloos for shelter during the

day's rest. Soon a stew of seal or walrus meat is steaming over a lamp, and the Eskimos are just as comfortable as if they were at home. When the meal is over, they roll up in the deerskin blankets and go to sleep.

Sometimes the sledge trips last several weeks, and the families travel two or three hundred miles before they get back to the village. They have had a fine time, but they are glad to be at home again.

Daily life in the snow village. During the winter there are many days when the weather is too stormy for the men to go hunting, but they are never idle. There is always work to be done in this cold land. If Nandla's people worked as little as Bombo's people do, they would soon starve or freeze to death.

When the men cannot hunt, they repair their spears and harpoons, and clean and oil their guns. They also mend the dog harness and keep the sledges in good condition. The women are busy, too. Every day they must cook the meals and pound blubber to get oil

to burn for heat and light. They must also make new clothes for their families, and keep the old ones mended.

Nandla and the other children play out of doors in the middle of the day when the weather is good. Sometimes they harness the puppies and teach them to drag little sledges. They build little igloos and have great fun playing house. Often they coast down the hills, laughing and shouting when they fall off their sleds into the snow. *See Figure 77.*

The girls make dolls out of bone, and dress them in pieces of fur. The boys like to pretend they are hunters, and throw their little spears and harpoons at make-believe seals and walruses. Often they practice shooting at targets with their bows and arrows.

In spite of the cold weather, Nandla and his family are comfortable in their snow house. The igloo is always warm and cheery with the heat and light of the lamps. Nandla likes the evenings, for after supper is the time for story-telling. Often several neighbors come in, and each one tells a story in turn. Nandla listens as long as he can keep awake. Then his mother rolls him up in a warm fur blanket and puts him to bed on the sleeping bench.



Courtesy of Donald B. MacMillan

Figure 77. Eskimo children at play. If you live where there is snow enough in winter for coasting, you know what fun these Eskimo children are having. Name the animals which provide them with their fur clothes.



Courtesy of Revillon Frères.

Figure 78. An Eskimo throwing his harpoon. As he throws the harpoon he holds fast to the end of the line. If his aim is good, the harpoon will be driven deep into the flesh of the walrus, and the line will be used to help pull the wounded animal toward the ice.

Winter hunting. Every day when the weather is not too bad the men go off with their dogs and sledges to hunt polar bears, seals, and walruses. There is an interesting way of hunting walrus at this season. The hunters take their harpoons and spears and go out to the edge of the ice. Standing close to the water, one of them calls the walrus by imitating its grunt. When the animal hears the noise, it swims toward the ice and rises to the top of the water. Just as its head appears above the water, the hunters throw their harpoons at it. *See Figure 78.*

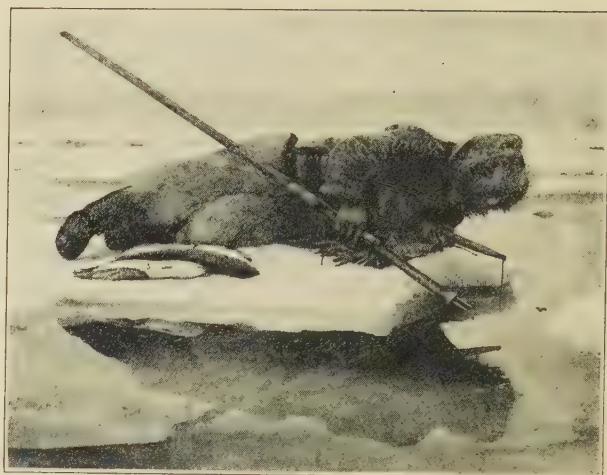
Then a great fight begins between the hunters on the ice and the wounded walrus in the water. The men hold fast to the lines that are fastened to the harpoons, and the walrus fights to get away. When the animal grows tired, the hunters can pull it close enough to the ice to kill it with their spears.

Seal-hunting is done in a still different way. Seals, like walruses, cannot remain long under water. When the bay begins to freeze over in the autumn, they scratch small breathing holes in the ice. All winter long they visit these holes regularly to get fresh air, coming



Courtesy of Revillon Frères

Figure 79. A hunter waiting at a seal hole. He has built a wind-shield of snow blocks, for he may have to wait an hour or more before the seal comes to the breathing hole. The Eskimos have different ways of catching seals at different times of year.



Courtesy of Revillon Frères

Figure 80. The Eskimo way of fishing. The fisherman moves the hook and line slowly up and down in the water. The moving hook attracts the attention of the fish swimming below, and as they come up to find out what it is the fisherman spears them.

to each one in turn. In this way they keep the ice at each hole from freezing too thick to be broken.

First of all, the seal-hunter looks for a breathing hole. When he finds one, he sits down on a block of snow to wait for the seal. His spear lies across his knees. Attached to the point of the spear is a strong line made of whale hide. When the seal pokes its nose up through the hole, the hunter drives his spear into the animal and jerks the handle away. The line which is attached to the spear point prevents the seal from escaping. Holding fast to the line, the hunter makes the breathing hole larger by breaking the ice with the spear handle. Then he pulls the seal out of the water with the line. *See Figure 79.*

Seal-hunting on the ice. Late in the winter, when food is getting scarce, the Eskimo families load their sledges and go far out on the frozen bay to hunt seals. Only the old people are left at home. Out on the ice, several miles from land, an igloo camp is quickly built. These igloos are not so large or so well made as those in the village, but they are good enough for a few weeks' hunting.

The sealing camp is a busy place. The men and boys are away all day long, coming back at night with the seals they have killed. The women spend the days skinning the animals, scraping the blubber, cutting up the meat, and drying the skins. From time to time sledges are loaded with meat, blubber, and skins, and sent back to the winter village, returning next day for more.

After a few weeks the snow begins to melt a little in the middle of the day, and there are signs that the ice will soon break up. If the Eskimos stay in the sealing camp much longer, they may be caught on the ice, swept out to sea, and drowned. They must pack their sledges and go back to the village.

Fishing. Within a few weeks after the Eskimos reach home the ice breaks up and open stretches of water appear. Now the men and boys can go fishing. They use sealskin lines and bone hooks carved in different shapes. But they do not use bait, and they catch the fish in a strange way. Figure 80 and its legend will tell you how they do it. The Eskimos are glad to have fish to eat, for it is a pleasant change from meat and blubber.

The end of winter. By the end of March winter is over and spring has begun. The days are longer than the nights now, the weather is growing warmer, and the snow is melting fast. The birds are coming back from the South, and Nandla's people are getting ready for summer. The men are repairing the kayaks and the umiaks, and the women are mending the tupik coverings.

The Eskimos stay in the winter village until the igloos begin to melt and are in danger of falling to pieces. Then they pack their belongings in the umiaks and start off on their summer wanderings. Very likely they will travel hundreds of miles before they return to their winter home.

A name test. Each of the ten lines below describes something the name of which you have learned since you started on your imaginary travels. Read each line carefully, and name what it describes. If you fail on 1, 2, or 3, study page 19 again. If you fail on any of the others, study pages 37-39 again.

1. A great circle which, if drawn on the earth, would divide it into halves.
2. The northern half of the earth.
3. The southern half of the earth.
4. The northernmost point on the earth.
5. The southernmost point on the earth.
6. The cold northern ocean.
7. The cold southern continent.
8. The island from which come the icebergs in the North Atlantic Ocean.
9. The cold current which carries the icebergs southward.
10. The warm current which helps to melt the icebergs.

Using new words. In reading about the Eskimos, you have found the words listed below. Some of them may have been new to you. Prove that you know the meaning of each one by using it in a sentence of your own.

tupik	kayak	harpoon
igloo	walrus	sledge
umiak	blubber	nomad

Testing your memory. On your journey to Baffin Island you have learned how different Nandla's homeland is from Bombo's. Test your memory of the two places by telling whether it was in Belgian Congo or Baffin Island that you saw the people doing each of the following things:

1. Building houses of wood.
2. Wearing fur clothing.
3. Living in the same place the year round.
4. Gathering palm kernels.
5. Seeing the midnight sun.
6. Traveling in umiaks.
7. Raising vegetables the year round.
8. Building houses of snow.
9. Carrying people in teapoys.
10. Hunting sea animals.
11. Eating walrus meat and blubber.
12. Paddling in canoes made from logs.
13. Eating manioc bread and bananas.
14. Burning oil of sea animals.
15. Driving dog teams.
16. Seeing the sun directly overhead at noon twice a year.

Some things to explain. Give as many reasons as you can to explain why

1. The Eskimos live in different kinds of houses at different times of year.
2. A tent is the best kind of house for people who are nomads.
3. The Eskimos hunt and travel in different ways at different seasons of the year.
4. The natives of Belgian Congo live and work in the same way all the year round.

A second Eskimo program. You may have entertained some of the other children in your school with a program telling how Nandla's people live in summer, as was suggested on page 47. Now you may plan a program to tell them how Nandla's people live in winter. In preparing talks on the subjects given below, imagine that you are an Eskimo.

How we build our igloos
 What I wear in the winter
 How my father hunts seal
 A sledge trip which I took
 How I play in the winter

NOMADS OF THE DESERT

THE ARABS AND THEIR HOMELAND

Hirfa's people. On our next journey we shall visit Hirfa, the little girl whose picture you saw on page 3. Her home is in the south-

western part of Asia, and her people wander from one place to another throughout the year. Like Nandla's people, they are nomads.

Hirfa's people are Arabs, and they belong to the *white race*. Their skin is light, although



Figure 81. A map showing our route to Arabia. The arrow marked G points to the Strait of Gibraltar. The arrow marked S points to the Suez Canal, which connects the Mediterranean Sea with the Red Sea.

their hands and faces are tanned brown by the sun. Their hair is dark and straight.

The land of the Arabs. The country of the Arab people is called Arabia. Find Arabia on the map (Figure 81). With your finger trace its coast line, that is, the line where the land meets the water. This will show you that Arabia is bordered by water on three sides, and on part of the fourth side as well. What should you call it if it were surrounded by water?

Arabia is a *peninsula*. *Pen* comes from a word which means "almost," and *insula* means "an island." Put the two parts of the word together, and you will see that a peninsula is *almost an island*; that is, it is a body of land nearly surrounded by water.

Turn back to the globe map on page 13, and find the peninsula of Arabia. Is it a rainy land or a dry land? After you have answered that question you will not be surprised to learn that most of Arabia is a desert. So little rain falls that there are miles and miles without a single tree, and in many parts of the peninsula there is not even any grass.

Besides being a very dry land, Arabia is also a warm land. It is farther from the equator than Belgian Congo is, but near enough to it to be warm the year round. In summer it is very hot, and even in winter the days are warm.

Our voyage to Arabia. To reach Arabia from our country we must first cross the ocean. We shall sail from New York, as we did when we went to Belgian Congo. Our ship will follow the route marked on Figure 81 by a line of arrows. Trace the route with your finger.

The arrows show that after crossing the Atlantic Ocean our ship will pass through a



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Figure 82. Ships passing through the Suez Canal. Notice how straight the canal is, and that the land bordering it is bare and sandy. The Isthmus of Suez is part of a great desert which spreads across northern Africa and Arabia. Why are there no trees here?

very narrow strip of water into the Mediterranean Sea. What do we call such a strip of water? The arrow marked G on the map (Figure 81) points to this narrow waterway, and the legend under the map will tell you its name. What is it? As we sail eastward on the Mediterranean Sea, what continent is north of us? What continent is south of us?

When we reach the eastern end of the Mediterranean Sea, our ship will turn southward and pass through another narrow waterway to the Red Sea. The arrow marked S on the map points to this waterway, and the legend will tell you that it is called the Suez Canal. A canal looks somewhat like a river, but it is a waterway *dug by men*. The Suez Canal provides a passageway for ships through the Isthmus of Suez. An *isthmus* is a narrow strip of land connecting two larger bodies of land. What large bodies of land does the Isthmus of Suez connect?

Figure 82 shows what we shall see as we pass through the Suez Canal on our way from the Mediterranean Sea to the Red Sea. Study the picture and its legend.



Figure 83. A seaport town on the desert coast of Arabia. The houses are built of bricks made of mud and baked hard in the hot sun. Why are they not built

of wood? Notice that the roofs are flat. Roofs of this kind are almost always a sign of a dry country. Can you explain why steep roofs are not needed in Arabia?

An Arabian seaport. As we sail down the Red Sea we find the coast of Arabia bare and sandy. For miles and miles not a tree is to be seen. There are only a few towns on this desert coast, because in most places there is not enough fresh water to supply the needs of many people. There are some places, however, where water bubbles out of the ground in springs, and others where it can be obtained by digging wells. It is in places of this kind that the towns are found. Figure 83 is a picture of the seaport where we shall leave our boat.

A travel test. On your way to Arabia you have traveled on five bodies of water. Choose their names from the following list: Pacific Ocean, Atlantic Ocean, Baffin Bay, Strait of Gibraltar, Arctic Ocean, Mediterranean Sea, Suez Canal, Indian Ocean, Red Sea.

Using new words. On your way to Arabia you have also learned the meanings of three new words. Prove that you know how to use them by finishing each sentence below correctly:

1. A body of land nearly surrounded by water is a
2. A narrow strip of land which connects two larger bodies of land is an
3. A waterway dug by men is called a

A TRIP ACROSS THE DESERT

The Bedouin Arabs. We shall not find Hirfa's people in the town, for they are Bedouins, or Arabs of the desert. The Bedouin Arabs are nomads. They are so used to wandering about and camping out of doors that they feel sorry for the Arabs who live in houses in the towns.

The camel caravan. There is no railroad from the town out into the desert. If we are to visit Hirfa, we must travel as the Arabs themselves do. We shall join a camel caravan; that is, a group of travelers who are going to ride across the desert on camels. Our caravan leaves the town at sunrise. Besides the camels that we are riding, there are many others heavily loaded with baggage. See Figure 84.

The camels are tended by Arab drivers, and the caravan is guarded by Arabs armed with guns. They all wear long, loose cloaks, but they are barefoot. Instead of wearing hats, they cover their heads with pieces of cloth which hang down over their shoulders, and which can be pulled over their faces to protect them from the hot sun. See Figure 85.



Photograph by Pictorial Clubs, Inc.

Figure 84. A camel caravan starting across the desert. Usually a good many people travel together in one caravan. That is because there are robbers in the

desert. They are likely to attack small parties of travelers, but they do not dare to trouble the large caravans. Notice the sand and the treeless hills in the picture.

The hot, dusty desert. The early morning air in the desert is clear and cool, but as the sun rises higher and higher in the sky the day grows hotter and hotter. A breeze springs up, but it feels as if it came from a furnace. Little whirlwinds carrying funnel-shaped clouds of dust keep blowing across the desert, and now and then a stronger gust of wind drives the sand into our eyes. There is no shade in the desert, for there are no trees. There are a few low bushes and patches of grass, but they are brown and dry from the heat of the sun.

Some parts of the desert are level and covered with sand. The caravan shown in Figure 84 is crossing one of these parts. In other parts the sand has been swept away by the wind, and the ground is bare and rocky. In some places there are rocky hills. You can see a group of these hills in Figure 84. The caravan winds round the hills, for they are too rough and steep for the camels to climb.

In still other parts of the desert there are hills of sand which are known as *sand dunes*. These are different from the rocky hills, for

they are built up by the wind, and they do not stand still. The wind piles up the sand in dunes just as it piles up snow in snowdrifts in colder lands. Sand is always being blown up one side of the dunes and tumbling down the other. This causes the dunes to move slowly, and as they move their shapes change. You cannot see this movement of the sand dunes, but it is going on all the time. See Figure 86.



Figure 85. Arab camel-drivers and caravan guards. The three men with guns are guards, and the other two are drivers. Notice how they are dressed.



Courtesy of Compagnie Générale Transatlantique

Figure 86. Sand dunes in the desert. Sometimes the dunes move slowly toward a little town in the desert, and if fences or walls are not built to stop them, they will bury it after a while. Many desert towns have been buried in this way.

The dunes cover such broad stretches of the desert that there is no way of going round them. If you have ever tramped over dunes at the seashore, you know how hard it is to walk in the soft sand, and you can imagine how slowly a camel caravan must travel across the dunes of the desert.

The ship of the desert. The camel is often called "the ship of the desert" because it is so well suited to traveling across these hot, dry lands. It does not suffer from the heat, and it can go three or four days without water. On its back is a hump of fat which provides food for its body when it has nothing to eat. Figure 87 tells of still another way in which the camel is fitted for traveling in the desert.

The midday rest. By eleven o'clock it is so hot that the drivers put on sandals to protect their feet from the heat of the ground. At noon our caravan stops. The sun is almost directly over our heads, and the hottest part of the day is yet to come. We shall not travel any farther until the midday heat is over.

The camels kneel, and we get off, hot and tired. The drivers put up tents for us, and we are glad to go inside and rest in the shade,

It is so hot that we are not even hungry. All we want is a drink of water from our thermos bottles.

Night in the desert. Late in the afternoon we start again. As the sun sinks lower and lower in the western sky, the air grows a little cooler. After sunset we begin to feel chilly. This desert land becomes very hot in the daytime, but it cools off quickly at night.

Darkness falls, and the stars come out one by one. Night is the most beautiful time in the desert. All round us are the silent, lonely stretches of rocks and sand. Overhead the sky glitters with millions of stars. The

only noise that breaks the stillness is the soft tread of the camels' feet.

About nine o'clock we stop again, and the tents are put up for the night. This time we are cold and hungry. The drivers build a camp fire of dry twigs and grass, and we are glad to gather round it for supper. When the meal is over, we roll up in warm blankets and lie down to sleep in the shelter of the tents.



Photograph by Pictorial Clubs, Inc.

Figure 87. A Bedouin Arab and his camel. The camel's hoofs are broad and flat, which keeps them from sinking too deeply in the sand.



Figure 88. A Bedouin camp in the desert. Each tent is the home of one family. All the families belong to one tribe, and Hirfa's father is their chief. The Bedouins

live in these tents the year round. The tents provide shade from the hot sun during the day, and serve as shelter from the desert wind, which is chilly at night.

A BEDOUIN WELCOME

We reach the Bedouin camp. We are off again early in the morning, and a ride of a few hours brings us to the place where Hirfa's tribe is camping in the desert. Figure 88 shows how the Bedouin camp looks.

As we get off our camels, Hirfa's father comes to meet us. He is dressed much like our drivers, and he welcomes us with quiet courtesy. He leads us to his own tent, and invites us to sit down in the shade. Then he calls Hirfa's mother, asking her to bring us camel's milk to drink and dates to eat. He himself builds a small fire of dry bushes inside the tent and makes coffee for us.

When the coffee is ready, Hirfa and the rest of the family come into the tent and sit down with us while we drink it. This is their way of showing that they are glad we have come.

The Bedouin Arabs always offer the best they have to strangers. They know that travelers in the desert need food and shelter, and they do all they can to make them comfortable. To turn a traveler away hungry would be to break one of their strictest rules.

The other people of the tribe welcome our drivers in the same way. The women bring them dates and milk. The men help to unload the camels, and turn them loose to feed on the patches of dry grass. Even though they need all the grass for their own camels, they gladly share it with the visitors.

By the time we have finished eating, our tents have been put up. It is almost noon now, and it is time for us to go to our tents to rest and sleep during the hottest hours of the day, as the Arabs themselves do. Late in the afternoon our caravan goes on its way, leaving us with Hirfa's people.



Photograph by Pictorial Clubs, Inc.

Figure 89. Hirfa and her family sitting in their tent. Find Hirfa and her mother in the picture. At their left is Hirfa's father, the Bedouin chief. On the ground you

can see the coffee grinder, the coffee pots, and the pot for water. The tent covering is of woolen cloth made by Hirfa's mother from camel's hair and goat's hair.

Finding reminders. All the sentences below give glimpses of Arabia. Some of them will remind you of Belgian Congo or Baffin Island *as well as Arabia*. Copy the sentences in three lists. In the first list write the sentences which remind you of both Arabia and Belgian Congo; in the second those which remind you of both Arabia and Baffin Island; in the third those which remind you of Arabia only.

1. The days are warm the year round.
2. The country is very dry.
3. For miles and miles there are no trees.
4. The people are nomads, and live in tents.
5. The people need shelter from the hot sun.
6. They need clothing to protect their bodies.
7. The people travel on camels.

Something to do. Make a model of a desert on the sand table. Make one part of it look like Figure 84, and another part like Figure 86. Try to make some paper camels to represent a caravan crossing the desert.

WHY THE BEDOUINS ARE NOMADS

The search for grass. Now that you know how dry the desert is, you will find it easy to understand why the Bedouins are nomads. In the spring it rains just enough to make the grass grow in parts of the desert, but in a few weeks everything is dry again. For months and months not a drop of rain falls, and so Hirfa's people cannot have gardens as Bombo's people do. They cannot live by hunting as Nandla's people do, either, for there are very few wild animals in the desert. The only way they can get food is to keep camels, sheep, and goats. These animals must have grass to eat.

The grass, which grows in the spring, is found in thin patches scattered over miles and miles of the desert. There is not enough in any one spot to feed the animals for long at



Photograph by Pictorial Clubs, Inc.

Figure 90. A pool in the desert. At pools like this the wandering Bedouins water their flocks and herds. Often they travel miles and miles to reach a watering

place, only to find it dry. Then, no matter how tired they are, they must push on to another watering place. How many kinds of animals do you see in the picture?

a time. As soon as the animals have eaten all the grass in one place, Hirfa's people must move on in search of more. Otherwise their animals will starve to death.

The need of water. Water is as important as grass to the Bedouins. The camels can go without water several days, but they must drink about twice a week. The sheep and goats must have water at least once a day, or they will soon die of thirst. Of course the people too must have water.

How the Bedouins get water. The desert is a very dry place, but if it had no water at all, no one could live there. Luckily, there is water beneath the ground. In a few places it is so near the surface that it can be obtained by digging in the sand. In other places there are wells, but these are long, long distances apart.

There are still other places, where the spring rain collects in hollows on the surface of the ground. These hollows have rock bottoms, and they hold pools of water for several months after the rain is over. Hirfa's people know all the places where water is likely to be found. They never wander far from these places, for the grass is of no use unless there is water for the animals to drink. *See Figure 90.*

Some things to explain. Give reasons to explain why

1. Hirfa's people are called nomads.
2. They do not have farms or gardens.
3. They keep camels, sheep, and goats.
4. They wander over the desert instead of living in one place all the time.
5. They live in tents the year round.
6. The camel is an especially useful animal in desert countries.



Photograph by Pictorial Clubs, Inc.

Figure 91. An Arab boy helping to tend the sheep. The young men and boys watch the animals all day long to see that none are lost or hurt. The men carry guns to guard the sheep and goats from robbers.

A DAY IN THE BEDOUIN CAMP

Breakfast with Hirfa's family. Hirfa's father has invited us to breakfast the morning after our arrival in the camp. We are up at sunrise to meet the family in front of their tent. A fire of dry bushes is burning on the ground, and Hirfa's father is making the morning coffee. The Arabs are so fond of coffee that they drink it several times a day.

From the tent Hirfa brings dates and two kinds of cheese. One kind is made from camel's milk, and the other kind from goat's milk. There are little corn cakes, too, which Hirfa's mother has baked especially for us.

The Bedouins do not eat much bread, for the only way they can get flour or meal is to buy it in the towns. They do not visit the towns often, and when they do they have very little money to spend. They do not eat much meat either. They need the goat's milk and the sheep's wool, and so they cannot afford to kill many of the animals. Once in a long while they kill one for a special feast.

Tending the sheep and goats. After breakfast Hirfa's older brothers and the other

young men mount their horses and drive the sheep and goats to the desert pastures. The pastures are the grassy places where the animals feed. Each family has its own flock of sheep and herd of goats, and the younger men tend the animals while they graze, or feed, on the grass. The young boys too sometimes help to tend the animals. See Figure 91.

The flocks and herds often wander long distances in a day. The sheep go ahead, nibbling the grass almost down to the roots. The goats follow, eating whatever the sheep have left. The camels are allowed to graze alone, for they are such large animals that they are not likely to be stolen. At night they come back to the camp of their own accord.

The tent and its furnishings. After the young men have started off for the day with the sheep and goats, Hirfa's father shows us the whole of his tent. It is large, and is divided into two parts by a big woolen curtain. The front part is for the men of the family, and the back part is for Hirfa and her mother. All Arab homes are arranged in this way, with one part for the men and the other for the women and children.

The tent covering is of woolen cloth made from goat's hair and camel's hair. Hirfa's mother and the other women make their own tent cloth. They clip the hair from the animals, spin, or twist, it into thread, and weave the thread into cloth. See Figure 92.

The ground in the front part of the tent is covered with woolen rugs, but there is no furniture. The Arabs do not want any furniture, for they have no way of carrying it when they move.

The back part of the tent, where Hirfa and her mother live, is also a storeroom for



Photograph by the American Colony, Jerusalem

Figure 92. Hirfa's mother weaving a strip of woolen cloth. When she has woven enough strips, she will sew them all together for a tent covering.

the few family belongings. In one corner is a pile of blankets made of camel's hair and sheep's wool. The blankets serve both as beds and as bedclothes, for the Bedouins roll up in them and sleep on the ground.

In another corner there are some copper kettles for cooking, copper pots for making coffee, and wooden bowls for dishes. Close by are a number of bags made of sheepskins and goatskins. These are used for storing cheese and other food supplies, and for carrying water. In this part of the tent you will also see the big wooden saddles for the camels which Hirfa and her mother ride.

Hirfa's people have even fewer belongings than Nandla's family in the Far North. They do not need so many clothes and blankets, and their work can be done with fewer tools. They move so often that anything that is not



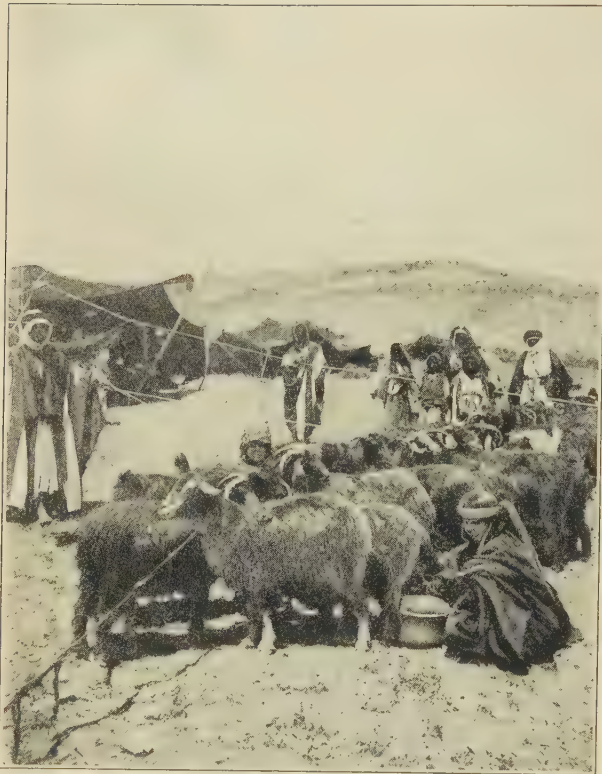
Photograph by the American Colony, Jerusalem

Figure 93. Hirfa's mother making butter from goat's milk. She has poured the milk into a goatskin bag and is shaking it back and forth to churn it.

needed is in the way, and so they get along with as few things as possible.

How the day is spent in camp. About nine o'clock Hirfa's father calls a meeting of the older men of the tribe. Plans must be made to move on in search of other pastures tomorrow, for the grass is nearly gone for several miles round the camp. For two or three hours the men sit on the ground, sipping coffee and talking. Hirfa and the other children play together in the shade of the tents. They have no toys, but they play games and draw pictures in the sand with sticks.

While the men talk and the children play, the women are busy with their daily work. Hirfa's mother has some extra goat's milk from which she is making butter. This will be a special treat for the family. Figure 93 will show you how she makes the butter.



Photograph by the American Colony, Jerusalem

Figure 94. Hirfa's mother milking the goats. Hirfa is standing among the goats, waiting for a drink of milk. Can you find her in the picture?

Many of the women are making cheese from the milk of the camels and goats. Cheese is the chief food of the Bedouins. The women mold the cheese in little cakes and lay them on top of the tent coverings to bake hard in the sun. Prepared in this way, the cheese will keep for a long time, and can be eaten as it is needed. When the Bedouins move from one camping place to another, the cheese is packed in skin bags which can be carried easily on the backs of the camels.

Some of the women are making thread by spinning wool from the sheep, and hair from the goats and camels. Others are weaving the thread into cloth for tent coverings, blankets, and clothing. Now and then the Bedouins buy clothes in the towns, but most of their clothing is made from the wool and hair of their own animals.

Perhaps you are wondering why Hirfa's people wear more clothing than Bombo's people. One reason is that the Arabs are white people, and another is that their country is very dry. People of the white race become badly sunburned in hot countries, especially if the air is dry instead of damp. The Bedouins cover their bodies to protect their skin from the hot sun, but their clothes are so loose that they are not too warm.

There is still another reason why Hirfa's people wear more clothing than Bombo's people. Bombo's land is warm both day and night, but Hirfa's land cools off very fast at night. Her people need clothing for warmth early in the morning and after sunset.

Evening in the camp. During the middle of the day, when the sun is very hot, the Bedouins rest and sleep in their tents. There is no meal at noon, and the camp is quiet during the hottest hours of the day. Toward sunset, when the air is cooler, the people begin to move about again. The camels come plodding into the camp and lie down by the tents. The young men come home with the flocks and herds, and the women milk the camels and goats. *See Figure 94.*

As darkness falls, the camp fires are lighted, and the families gather round them for the evening meal. Hirfa and the other children have milk for their supper. The older people eat cheese and dates, and finish their meal by drinking coffee.

The women and the children go to bed early, but the men stay up late. With their long cloaks wrapped close round them, they sit for hours in the cool evening air. They talk of their flocks and herds, and of the chances of finding good grass the next day. At last they too go into the tents and roll up in their blankets for the night.

Something to do. Study Figure 88 carefully, and then make a little model of a Bedouin camp in one part of the desert on your sand table.



Photograph by Pictorial Clubs, Inc.

Figure 95. A camel loaded for a journey. Without camels to carry their belongings, the Bedouins could not travel in the desert. If they could not travel, they could not live in the desert at all. Why not?



Photograph by the American Colony, Jerusalem

Figure 96. Hirfa's father and brother on their horses. Only the richer Bedouins can afford to own horses. When they cannot get green grass for the horses to eat, they feed them on camel's milk.

TRAVELING WITH THE BEDOUINS

Moving to new pastures. Everybody is up early in the morning, and before sunrise breakfast is over. The tents are taken down and loaded on the camels with all the household goods. The riding-camels are saddled for the women and children, and the sheep and goats are brought together ready for the journey. See Figure 95.

Our own things have been packed by our drivers, and we mount our camels, ready to ride with the Bedouins. The caravan starts off just as the sun is rising. Hirfa's father and oldest brother gallop ahead on their horses, and are soon out of sight. The first place where they find water and good grass will be the next camping-place. See Figure 96.

The camels lead the procession, plodding steadily along under their heavy loads. The young men follow, driving the flocks and herds.

The march is slow, for the sheep and goats cannot travel fast, and they stop to graze wherever there is a little grass.

At noon we stop to rest, but the halt is short. Hirfa's father comes riding back to say that the nearest pools are dry, and the day's journey will be longer than he expected. In spite of the heat, the caravan is soon on its way again, for the sheep and goats must have water by night.

All through the hot afternoon the caravan winds its way over the sandy desert. The young men hurry the sheep and goats along, for there is no time to let them graze now. The sun goes down and the cool evening comes on, but the water and grass are still two hours' march away.

Settling the new camp. At last there is a shout from the drivers at the head of the procession. The day's journey is over. The camels are unloaded and lie down to rest.

The sheep and goats are led to a rock pool for water. The women put up the tents, and in an hour's time the camp is settled.

The new camp is much like the old one, and the daily life is just the same. When the animals have eaten all the grass in the neighborhood, Hirfa's people move again. Week after week they wander in search of water and grass.

A sand storm. One day when we are traveling with the Bedouins we are caught in a terrible sand storm. A hot wind sweeps across the desert, driving clouds of sand so thick that we cannot see anything an arm's length away. The sand stings our faces and almost chokes us. The camels lie down on the ground, and we sit down close to them for shelter. The sheep and goats crowd together with their backs to the wind. The storm lasts several hours, and when it is over we are all half buried in the sand.

The Bedouins are used to the sand storms of the desert, just as the Eskimos are used to the snowstorms of the North. They wait patiently until the storm is over, and then go cheerfully on their way again.

Giving reasons. Each of the sentences begun below needs an ending that will give the reason for the fact that is stated. Try to finish each one correctly. If you have trouble finishing any of them, read pages 62-64 again.

1. The Bedouin Arabs do not eat much bread or meat because
2. Cheese is their principal food because
3. The Bedouins wear more clothing than the Congo natives because
4. Much of their clothing is made of woolen cloth because
5. They do not have many furnishings in their tents because
6. They sleep and rest in the middle of the day because
7. They build fires in the evening because

A VISIT TO AN OASIS TOWN

Trading with the town Arabs. Let us suppose that we have been wandering with the Bedouins for two months. The hottest part of the summer has come, and not a drop of rain has fallen for months. Every day it is harder to find grass, and many of the desert pools and wells are dry. Already some of the sheep have died of hunger and thirst, but the goats manage to live on less grass and water. The camels look thinner, but they are still strong.

Hirfa's people are now on their way to a town in the desert. There they will sell the wool and skins of the animals which have died, and also some of the live sheep and goats. There is no use trying to keep all the animals until the spring rain comes again, for there will not be grass enough for them to eat.

Many of the women have a little cheese to sell. Most of them have spun enough woolen thread so that they have some to spare, and this too will be sold to the merchants in the town.

With the money that they get for their goods the Bedouins will buy a little flour and corn meal, and a good supply of dates and coffee. If they have any money left over, they may buy new cloaks or saddles, or perhaps some new cooking pots and bowls.

Oases. Perhaps you are wondering how there can be any towns in the desert. When you first reached Arabia, you learned that there are places along the coast where water bubbles out of the ground in springs, or where it can be obtained by digging wells. There are places of this kind in the midst of the desert too. A place in a desert where there is water enough for trees to grow is called an *oasis*. The oases are long distances apart, and the larger ones are the only places where towns can be built in the desert.

The desert air is so clear that we can see the oasis while we are still many miles away.



Figure 97. A Bedouin caravan outside an oasis town. The trees in the oasis are palms, but they are not the same kind as the palm trees that grow in Belgian Congo. Notice the mud wall round the town. It was built long

ago when the people were afraid of being attacked and robbed by the Bedouin tribes. It is broken in places now, but there is no need to mend it, for today the Bedouins and the town Arabs carry on a friendly trade.

As we come nearer, the trees look fresh and green in the midst of the brown, thirsty desert. Tired as they are, the animals move a little faster. They seem to know that when they reach the oasis they will have water and fresh, green grass. *See Figure 97.*

Hirfa's people camp in the desert outside the town. Not one of them would think of sleeping in a house for a single night. They are so used to living in the open desert that they cannot understand how people are willing to live in houses.

The men load the camels with the things they wish to sell, and go into the town to trade with the merchants. When they return, each camel bears a load of fresh, green hay. The Bedouins always think of the needs of their animals before they think of their own

needs. The sheep are nearly starving and the goats are not much better off. Even the camels need green grass.

For a week Hirfa's people rest in the camp outside the walls of the town. Each day the animals are fed well, and they begin to grow fatter and stronger.

The oasis gardens. While our Bedouin friends are resting outside the walls, we shall enjoy a visit in the town. Wherever there are wells, we find gardens. Most interesting of all are the groves of date palms. Growing on these trees are dates such as we buy in the stores at home. The trees are set out in rows and are given the best of care. They look somewhat like the oil palms of Bombo's land, but they are not so tall. The dates grow in clusters near the tops of the trees. *See Figure 98.*



Figure 98. Gathering dates from the palm trees in an oasis. People say that the date palm is a tree which needs to have its feet in the water and its head in the sun. That means that its roots must have plenty of

water and that its leaves and fruit must have plenty of sunshine. Because this is true, date palms grow best in the oases of the hot, sunny deserts of the world. Very likely you have eaten dates grown in Arabia.

The date palms are as useful to the people of the oases as the oil palms are to Bombo's people. Dates are one of their principal foods, as well as the most important product which they send to other countries. The people eat some of the dates fresh, but they dry most of them in the sun, since fresh dates soon spoil. Those that are to be sent away are packed in wooden boxes. The rest are put into skin bags, to be sold to the people of the town and to the Bedouins.

The old stalks and leaves are cut from the date palms every year, and the people burn them in their homes as fuel for cooking. The leaves are also used to make baskets and floor mats. The wood of the old trees is used for

beams, doors, and window frames of the houses, and for making furniture.

The next most important crop in the oasis is alfalfa. This is a plant which makes excellent hay for horses, sheep, and other animals. Perhaps you have seen a field of alfalfa, for this plant is raised in many parts of the United States. The weather is so warm in Arabia that alfalfa is grown the year round, and the gardeners cut it every six weeks. They feed it to their own animals and sell it to the Bedouins. Some of the gardeners have groves of lemon trees, others have orchards of fig trees and peach trees, and still others raise vegetables. Most of the fruits and vegetables are sold to the people of the town.

Watering the crops. Because there is so little rain, everything that is grown in the oasis must be watered from the wells. Oxen, donkeys, or camels are used to lift the water from the wells in skin buckets or clay jars. The buckets and jars are emptied into wooden troughs. From the troughs the water runs through ditches to the palm groves, the orchards, the alfalfa fields, and the vegetable gardens. Great care is taken not to waste any of it, for if the wells run dry the fruit and other crops will wither in the hot sun. Study Figure 99 and its legend.

The houses and shops. The houses in the oasis are clustered together in the center of the town. They are built of mud bricks which have been dried in the sun, and they look much like the houses that you saw in the seaport town (Figure 83). The roofs of the houses are flat, as the picture shows. There is no need for sloping roofs in a land where it seldom rains, and flat roofs are easier to build. In the evening the Arabs sit on the roofs to rest and cool off after the hot day.



Photograph by the American Colony, Jerusalem

Figure 99. Getting water from a well in an oasis. The camel walks round and round, turning the big wheel. The turning of the wheel lifts the jars of water from the well and empties them into the wooden trough.



Courtesy of the Board of Foreign Missions, R. C. A.

Figure 100. Shops in an oasis town. The men behind the counters are shopkeepers who sell flour and meal. What do the Bedouins buy from the town Arabs?

The most interesting part of the town is the section where the merchants have their little shops. Figure 100 shows how the shops look. Among the busiest shopkeepers are the coffee merchants, for the town Arabs are as fond as the Bedouins are of drinking coffee. Some of the coffee is grown in Arabia, and some of it comes from distant lands.

In the same section of the town are the shops where the weavers, tailors, copper-smiths, and saddlers work. The weavers buy woolen thread from the Bedouin women, and weave it into cloth. The tailors buy cloth from the weavers, and make the cloaks and other garments which the Arabs wear. The coppersmiths make coffeepots and copper kettles and bowls. Some of them make beautiful copper cups and vases. The saddlers make the leather saddles which the Bedouins use on their camels and horses.

The oasis town is a busy place, with its gardens and stores and workshops. But the gardens are the most important, for they provide the food for the people. Yet there could be no gardens without the wells. The town Arabs, like the Bedouins, can live only where they can get water in this desert land.

Our visit ends. The week's visit in the oasis town is over. Tomorrow we shall join a caravan which is going out to the coast, and Hirfa's people will go back to the desert. The hardest part of the year for the Bedouins is still to come. Water will be scarce until the spring rains come again, and every month there will be less and less grass for the flocks and herds. During the winter months the days will be warm, but the nights will be cold, and the Bedouins will be chilly in their tents. For many weeks there may be no food but milk and cheese. But in spite of the hard times that are coming, the Bedouins are glad to go back to the desert. They like to wander with their flocks and herds, and they would not be happy living in any other way.

Some Bedouin questions. Some children think that all people should live as we do. You know now that there are parts of the world where the people *cannot* live as we do, even if they should wish to do so. Below are some questions that children who have not visited Arabia might ask you about Hirfa's people. In answering them you will explain some of the reasons that Hirfa cannot live as we do.

1. Why are tents better houses for the Bedouins than the kind of houses we live in?

2. Why do the Bedouins not eat vegetables as people in our country do?

3. Why do they sleep and eat on the ground instead of using beds, tables, and chairs?

4. Why do they wear so many clothes when the weather is so warm?

5. Why do they call a man rich if he owns a large number of camels, sheep, and goats?

Telling Nandla about Hirfa. You have learned that Nandla and Hirfa both depend on animals for most of the things that they need. Nandla, however, depends on wild animals, while Hirfa depends on tame animals. Write a letter to Nandla, telling him all you can about the animals that Hirfa's father keeps, and how they help to provide Hirfa with food, clothing, a house, and a way of traveling.

Sharing your visit to Arabia. The children in your school who have heard about your trips to Belgian Congo and Baffin Island will wish to hear about your visit to Arabia. Here are a few topics which will help you to plan an Arabian program for them:

A journey across the desert

A day with the Bedouins

A town in the desert

A picture contest. On your journeys you have visited three different parts of the world, and you now have in your mind certain pictures of those lands. Ask your teacher to divide the class into three groups for a picture contest. Each group is to draw pictures as follows:

Group I. Pictures that come to your mind when you think of Belgian Congo.

Group II. Pictures that come to your mind when you think of Baffin Island.

Group III. Pictures that come to your mind when you think of Arabia.

Ask your teacher to decide which group makes the best set of pictures.

Finding reasons in the weather. You have found that the three groups of people whom you have visited live and work very differently from one another. The principal reason for this is that the weather in their countries is so different. See if you can give a "weather answer" to each of the following questions:

1. Why do the Eskimos have no gardens?

2. Why do the Bedouins have no gardens?

3. Why do the Eskimos not keep animals which live on grass?

4. Why do the natives of Belgian Congo wear so few clothes?

5. Why do the Eskimos wear fur clothes?

6. Why are houses needed by the Congo natives? by the Bedouin Arabs?

7. Why do the Eskimos need one kind of house in summer and another kind in winter?

8. Why do the Eskimos not burn wood, as the Congo natives do?

9. Why cannot the Eskimos travel in boats the year round, as the Congo natives do?

10. Why cannot the Bedouins travel in winter in the way the Eskimos do?

FOUR GREAT NEEDS

Something to do. From all that you have learned so far about geography, try to finish the following sentence:

The four things that people need most in order to live are ----, ----, ----, and ----.

Copy the sentence, filling in each blank space with one word. After you have finished the sentence with the words that you think are correct, read the rest of this page. Then change your sentence if you find that you have not named the four great needs correctly.

The first great need. Wherever you travel, you will find people working to get the things they need. The greatest need of all is food. Very few of us in the United States raise much, if any, of the food that we eat. We buy most of our food, and it comes not only from our own country, but from many different parts of the earth. That is because our country carries on trade with almost every other country in the world.

On your imaginary journeys you have visited three groups of people who do not buy much food because they live where it is hard to trade with other countries. Almost the only food they can have is what they can get for themselves in their own lands.

There are four principal ways in which people who cannot buy food may get it for themselves: (1) *hunting*; (2) *fishing*; (3) *herding* (keeping animals such as cattle, sheep, and goats); (4) *farming* (or gardening, which is a kind of farming).

What group of people whom you have visited get most of their food by hunting? by herding? by farming? What groups get part of their food by fishing?

The second great need. The kind of clothes which people need depends on the weather in the lands where they live. The

materials of which people's clothing is made depend partly on what kind of clothes are needed, and partly on what kind of materials can be obtained. People who live where they cannot buy clothing materials must use whatever they can get for themselves. Tell what materials the people whom you have visited use for their clothing, and how they get them.

The third great need. Everybody needs some kind of house to live in. Even in warm lands where people live out of doors most of the time, they need shelter from the sun, or the rain, or both. The kind of shelter which people need depends partly on the weather and partly on the way in which they live.

Houses are built of many different materials. In our country we use wood, stone, brick, and other materials, for we can buy whatever kinds we want. In the lands which we have visited the people do not buy building materials. What materials do they use for their houses, and how do they get them?

The fourth great need. Whatever people burn in order to have heat and light is called *fuel*. The fuels that are used most in our country are wood, coal, oil, and gas. We also get heat and light by using electricity.

The people who need fuel the most are those who live in the parts of the earth where the winter weather is cold. But even in warm lands people need fuel, for they want light at night and heat to cook their food.

In our country we are able to buy whatever kind of fuel we wish to use. In lands where people cannot buy fuel they burn whatever kind they can get most easily. Tell what the groups of people whom you have visited use for fuel, and how they get it.

Checking your sentence. What changes do you wish to make now in the sentence in which you named the four great needs?



Figure 101. Wheat on Erik's farm in Minnesota.



Photograph by Wiise

Figure 102. Haying on Rolf's farm in Norway.

OUR EUROPEAN COUSINS

TWO LETTERS

Erik's letter to Rolf. Erik lives in Minnesota, which is one of the states of our country. Rolf lives in Norway, which is a country in Europe. You will enjoy reading the following letter which Erik wrote to Rolf.

_____, Minnesota
October 15, 19__

Dear Rolf,

I have never written you before, but you know that I am your cousin Erik in America. I go to school here in Minnesota where we live. I am in the fourth grade. We are studying geography, and we are learning about the countries of Europe.

My teacher thinks you would like to know what we do in Minnesota. She says perhaps you will write me a letter telling me what you do in Norway. That would be fine, for then I could read your letter to my class in school, and it would help us in our geography.

In Minnesota we have big farms. On our farm we have big fields of corn and oats and wheat and hay. We keep ever so many cows and pigs. My father sells milk and cream. He sells wheat and oats too.

In summer our cows stay out of doors and eat the grass in the pastures. In winter it is

very cold, and the pastures are all covered with snow. In the summer we put hay into the barn and corn into the silo to feed the cows in the winter.

We have hot weather in summer, and that is our vacation time from school. The big boys work on the farms. They help to run the machines that cut the grain and mow the hay. I am not old enough to do that, but my father lets me ride on the wagonloads of hay that are put into our barn.

In winter we have great fun sliding and skating. Sometimes we go ice-boating on the lakes. The ice boats have sails like boats, and runners like sleds. The wind blows them over the ice so fast that you think you are flying.

I hope you will answer soon and tell me about Norway. I was born there, but father and mother brought me to America when I was a little baby; so I don't remember anything about it.

Sincerely your cousin

Erik

Rolf's reply. Erik waited eagerly for Rolf's reply. When it came, it was written in the Norwegian language, but it is printed here in English so that you may read it.

———, Norway
November 20, 19—

Dear Erik,

I was as surprised as could be when your letter came. I never had a letter from America before. I couldn't read it myself, for I have not begun to study English yet. I took it to my teacher, and she read it to me in Norwegian. All my friends at school liked what you wrote about Minnesota. I like to think I have a cousin in America.

Now I will tell you about Norway. We live on a farm near the fiord. The fiord is a long, narrow bay, and the mountains make steep walls on both sides of it. Father says you would think our farm is very small. The mountains are so steep that there is not room for big fields like yours.

We don't raise any wheat or corn on our farm. When I asked my father why, he said, "Because our summers are too damp and cool." We have rain and fog in the summer, and in the winter we have snow. But even in summer time we see snow on the mountain tops.

We raise oats and barley and potatoes on our farm. We keep cows, just as you do. We have a herd of goats too. In summer we gather all the hay we can find on the mountain sides. We dry it in the sun and put it in the barn for the cows to eat in winter. I should like to see the big machines that cut the hay on your farm. My father cuts our hay with a scythe.

If you will come to visit us next summer, I will take you up to our saeter. Perhaps you don't know about the saeter. It is our pasture land high up in the mountains. My sisters and I take the cows up there to graze in the summer. Last year I stayed at the saeter two months.

We have two boats. One of them is a row-boat. We often go rowing on the fiord. The other boat is my father's fishing boat. Every winter he goes away in it for two or three months to catch codfish.

I hope you will come to see me next summer. It is great fun up at the saeter.

Sincerely your cousin
Rolf

P.S. I am sorry I can't write in English.
Rolf

Picture study. Study Figures 101 and 102, and tell what difference you see between the land in Norway and the land in Minnesota. Then try to answer this question: Why is it easier to carry on farming where the land is level than where the land is mountainous? Keep this question in mind during your visit to Europe, and check your answer by what you learn while you are there.

Map study. 1. Turn to the map of the United States on pages 156-157, and find the state where Erik lives. In what part of our country is it?

2. Turn to the map of Europe on pages 160-161, and find Rolf's country. In what part of Europe is it?

Our cousins in Europe. There are many boys and girls in America besides Erik who have relatives in Europe. In your history lessons you have learned that America was discovered by sailors from Europe more than four hundred years ago. Ever since that time people have been coming from Europe to make their homes in America.

There are many people whose families have lived so long in the United States that they know nothing about their relatives who live in Europe. Many of us who have no near relatives in Europe have distant cousins there.

A list of cousins. Ask your father or mother if the members of your family who first settled in America came from Europe. Find out from which country your father's family came, and from which country your mother's family came. Locate those countries on the map on pages 160-161, and be ready to point them out to your classmates. You may have cousins there.

When you and your classmates make your reports on the countries where you may have cousins, list on the blackboard all the countries mentioned. When all the members of the class have reported, see how many countries are listed. This will show you one reason that boys and girls in America should know something about Europe.



Figure 103. A travel map of western Europe.

A TRAVEL MAP OF WESTERN EUROPE

How the map is to be used. Our next imaginary journey will be a trip to Europe. First we shall visit Rolf's home in Norway. Then we shall visit three other countries of Europe. As we travel from one country to another, we shall need the map on the opposite page (Figure 103) to guide us. It shows the route which we shall follow, and, as you will see later, it can tell us many interesting things about the countries we shall visit.

On this page there are several groups of questions to be answered during your European trip. You will be told when to answer the questions in each group. *Do not answer them now.* Turn to the next page, and start on your imaginary journey to Norway.

MAP QUESTIONS

Group I

1. Point to the peninsula in which Norway is located. 2. What other country is in this peninsula? 3. Study the coast of Norway. Is the coast line, where the land meets the water, straight and smooth, or crooked and broken? 4. Are there many islands near the coast, or only a few? 5. Point to some of the long, narrow bays that reach far into the land. These are the *fiords*. 6. Is Norway a mountainous country, or a country of level plains?

Group II

1. Find the Netherlands on the map. 2. Does this country border the sea, or is it far away from it? 3. Does the surface of the land look high and mountainous, or low and flat? 4. Trace the route of our ship from Bergen in Norway to Rotterdam in the Netherlands. 5. What sea shall we cross on the trip? 6. Of what ocean is that sea a part? 7. In what direction shall we be sailing as we cross it? 8. Which country is nearer the equator, Norway or the Netherlands? 9. Do you expect to find the Netherlands warmer than Norway in summer, or cooler? Explain answer.

Group III

1. In what direction is France from the Netherlands? 2. Is it larger than the Netherlands, or smaller? 3. What country lies between the Netherlands and France? The people of this country are called Belgians. 4. The Belgian people own a part of Africa which you have visited. What is its name? Who lives there?

5. Find the city of Paris on the map. 6. On what river is it located? 7. Into a part of what ocean does that river flow? 8. Does the land round Paris look as if it were mountainous, or does it seem to be a plain? 9. Point to the place where André lives.

Group IV

1. What boy have you visited who lives in the lowest part of the central plains of Europe? 2. Name his country and point to it on the map. 3. What boy have you visited who lives in another part of the central plains? 4. What is that part called, and in what country is it? 5. Point to that country on the map. 6. What boy have you visited who lives in a mountainous country north of the central plains? 7. Name his country and point to it on the map.

8. Point to some of the mountains in the southern part of Europe. 9. Point to the mountains in Switzerland. These are the Alps. 10. Notice that the Alps extend beyond Switzerland into three bordering countries. 11. Name the countries which share the Alps with Switzerland. 12. What country that you have visited has a share of the central plains and also a share of the Alps?

Group V

1. Trace the course of the Rhône River from Switzerland to its mouth. 2. Into what sea does it empty? 3. In what country is its mouth? 4. In what direction is its mouth from the mouth of the Rhine?

5. What country borders Switzerland on the south? 6. What mountains does that country share with Switzerland? 7. Find the city of Genoa on the map. 8. In what country is it? 9. In what direction is it from Switzerland?

FARMER-FISHERMEN OF NORWAY

DISCOVERING THINGS ABOUT NORWAY

A voyage to Norway. We shall start on our trip to Europe in July, the same month in which we left Montreal and sailed northward to Baffin Island. Suppose we have left New

York on a big steamship, and are crossing the Atlantic Ocean to Rolf's home in Norway. The trip from New York to Norway will take nine days. While we are on the ship we shall have time to discover some interesting things about the country which we are going to visit.



Figure 104. A map showing our route from New York to Norway.

The arrows on the map (Figure 104) show the route which our ship is following. In what direction are we traveling as we cross the ocean? Do you expect to find the summer weather in Norway warmer than in the United States, or cooler? Why?

Another land of the midnight sun. Point to the place where the arctic circle crosses Norway. What part of Norway is a land of the midnight sun? Trace the arctic circle westward from Norway. Through what island that you have visited does it pass? Does it seem to you that Norway might be a cold, frozen land? Explain why.

Two pictures to compare. Figure 105 is a picture of a place in Norway that is nearer the north pole than is the place on Baffin Island shown in Figure 63 on page 42. Compare Figure 105 with Figure 63, and tell what differences you see between these two northern lands. How can you tell that Norway is a warmer land than Baffin Island?

Why Norway is warmer than Baffin Island. Turn to the map on page 158, and trace the warm Gulf Stream northward from the Gulf of Mexico to Newfoundland, where it meets the cold Labrador Current. Notice that from this place the Gulf Stream moves northeastward across the northern part of the Atlantic Ocean. It spreads out as it leaves the coast of North America, and drifts slowly toward the western coast of Europe. Trace on the map this drifting of warm water.

The winds in this part of the earth are *westerly winds*, which blow from the west to the east. This means that they blow from North America toward Europe. They carry to the northwestern coast of Europe air that is warmed by passing over the waters of the Gulf Stream. Therefore they make the north-



Figure 105. A village north of the arctic circle on the coast of Norway. What do you see on the hillside back of the village? Why did you not see anything of that kind on Baffin Island?

western part of Europe much warmer than the northern lands on the opposite side of the Atlantic Ocean. That is why Norway is a warmer land than Baffin Island.

More discoveries from the map. Now turn back to page 75 and answer the questions in Group I. They will help you to discover some more interesting things about Norway.

A "choose one" test. In each sentence below you have a choice of three words or phrases. Read each sentence carefully, and choose the word or phrase that makes it correct. Use your map to prove that your choice in each sentence is right.

1. Norway is in the $\left\{ \begin{array}{l} \text{northern} \\ \text{central} \\ \text{southern} \end{array} \right\}$ part of Europe.
2. Norway borders the $\left\{ \begin{array}{l} \text{Pacific} \\ \text{Indian} \\ \text{Atlantic} \end{array} \right\}$ Ocean.
3. Norway is nearer than the United States to $\left\{ \begin{array}{l} \text{north pole.} \\ \text{the } \left\{ \begin{array}{l} \text{equator.} \\ \text{south pole.} \end{array} \right. \end{array} \right\}$
4. Norway is warmer than Baffin Island because $\left\{ \begin{array}{l} \text{much nearer the equator.} \\ \text{it is } \left\{ \begin{array}{l} \text{warmed by the westerly winds.} \\ \text{much farther from the north pole.} \end{array} \right. \end{array} \right\}$



Photograph by Wilse

Figure 106. Among the skerries, or rocky islands, which border the coast of Norway. In places the skerries are so close together that the water passages

between them are very narrow. The people who live on the islands get their living by fishing. You can see a fisherman's house and boathouse in this picture.

NEARING THE COAST OF NORWAY

Long days and short nights. Our last day on board the ship has come. It is only three o'clock in the morning, but the sun has risen, and it is already broad daylight. In crossing the ocean, we have been moving steadily northeastward, and we are much nearer the north pole now than when we left home. On your trip to Baffin Island you learned that in the northern part of the earth the summer days are long, and the summer nights are short. What did you learn about the winter days and nights?

The skerry guard. We are no longer on the open ocean. Our ship is winding in and out among rocky islands. The smaller islands are bare rocks rising out of the water, but the larger ones have a few trees and a little grass on them. These rocky islands are called *skerries*. There are thousands of them, and they border the whole western coast of Norway. See Figure 106.

The skerries and the winding waterways among them are known as the *skerry guard*. It is easy to remember this name when you

know how well the islands guard the coast. They break the force of the winds and waves from the ocean, and so make the entrances to the fiords calm and safe for ships.

Something to explain. A traveler who visited Norway called the skerries "Norway's island fence." Explain what he meant.

A comparison to make. The two clocks in Figure 107 show what time the sun rises and sets on Fourth of July at Rolf's home in Norway. How many hours long is that day? From the World Almanac find out what time the sun rises and sets on Fourth of July in the part of the United States where you live. Draw two little clocks to show the time of sunrise and sunset. How many hours long is your Fourth of July? How much shorter is it than Rolf's?



Figure 107. The clock at the left tells what time the sun rises on Fourth of July morning at the place where Rolf lives in Norway. The clock at the right tells what time the sun sets in the evening on that day.



Photograph by Wilse

Figure 108. A view of Bergen from the mountain side above the city. The business center of the city is on the low peninsula which extends out into the fiord. On

both sides of the peninsula are inlets of deep water where ships may anchor safely. These inlets form the harbor of Bergen. Point to one of them in the picture.

A FISHING AND SHIPPING PORT

We reach Bergen. Our ship sails round a rocky point of land, and enters a fiord. On both sides steep mountains rise like walls. Their lower slopes are covered with evergreen trees and grass, but their higher slopes are bare and rocky. Soon we come in sight of a city at the head, or inner end, of the fiord. It is built on low land at the foot of the steep mountains which almost surround it. This is the seaport of Bergen. Find Bergen on the travel map on page 74. Then study Figure 108 and its legend.

The harbor. As we sail up the fiord, you will see that Bergen has a fine harbor. The harbor is large enough to hold many boats at one time, and it is deep enough for the largest ocean ships. The mountain walls protect it from the winds, and so make it calm and safe.

In the harbor and at the wharves are a great many boats. The largest ones are ocean liners (passenger ships) and freighters (freight ships) which have come to Bergen from distant countries. The smaller boats are steamers which carry freight, mail, and passengers to other towns and cities along the coast of Norway. There are also many motor boats and sailing vessels. Most of these are fishing boats.

As you watch the boats coming and going in the harbor, and being loaded and unloaded at the wharves, you can easily guess that much of the work that is done in Bergen has something to do with the sea.

A walk through the city. You will enjoy taking a walk in Bergen, for there are many interesting things to see, especially along the wharves. You had better take an umbrella with you, for it rains so often in Bergen that it is hardly safe to be without one.



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Figure 109. The fish market at Bergen. The principal kinds of fish caught near the coast of Norway are cod, herring, and mackerel, the same kinds that are caught near the northeastern coast of our country.

The streets of the city are narrow, but they are neat and clean. Figure 108 shows that the houses and other buildings are crowded together on the peninsula and on the lower slopes of the mountains. Most of the houses are built of wood, and have high, steep roofs. Why are roofs of this sort well suited to a place where it rains so often?

The people in the streets look like the people we are used to seeing at home. They speak the Norwegian language, which few of us understand, but they are dressed as we are, and they look as if they lived much as we do. We shall find that the people in all the cities of Europe live very much as the people in our own cities do.

The fish market. On one of the wharves you will find rows of little counters where men, women, and children are selling fish. Some of the men are fishermen who are selling fish that they themselves have caught. Not far from the counters are large tanks used as fishponds. They are filled with live fish, which people may buy fresh from the sea water.

The market opens in the morning when the fishing boats come in from the skerry guard,

and for an hour or two it is a very busy place. Men and boys unload the boats and carry the fish to the counters and tanks. The fish-sellers shout their prices, and the buyers crowd round, looking over the fish and choosing what they want. See Figure 109.

Fish for export. If you could count all the boatloads of fish that come into the harbor of Bergen in a year, you would wonder what the people do with them. They eat a great many fish, but they *export*, or send to other countries, a great many more than they use themselves.

There are fish merchants in Bergen who make a business of buying fish from the fishermen and sending them away to be sold to the people of other countries. Some of the fish are packed in ice and shipped fresh to the neighboring countries of Europe. Many more are salted and dried, or preserved in other ways, and are exported to many distant lands. Bergen is one of the great fishing and fish-exporting ports of the world.

Shipbuilding and shipping. As you might expect, the building of ships is an important kind of work in Bergen. The fishermen need fishing boats, and the fish merchants need freighters. New boats must be built and old ones repaired. The building and repairing of ships provides work for many of the people.

There are companies of shipowners in Bergen that send freighters all over the world. These boats are known as merchant ships. They sail from one country to another, carrying freight from port to port. Sometimes they are gone for a year or more on one trip. The people who own the freight pay the owners of the ships for carrying it. Thus, by carrying freight for the people of other countries, the merchant ships earn money for their owners in Norway. This business is called *shipping*.

Getting a living from the sea. You already know that many of the men of Bergen are fishermen, and that many others help to build ships. Still others are sailors on the merchant



Figure 110. The rocky, mountainous coast of Norway. Notice how high and steep the mountains are, and how little level land there is for houses and farms. This picture was taken in summer, yet there is snow on

the mountains. That is because the air high above the sea is much cooler than the air at the surface of the sea. On the higher mountain slopes it is so cool that even in summer the deeper snowdrifts do not melt away.

ships. Women, as well as men, work in the fish-preserving factories, in the offices of the shipping companies, and in the stores where supplies for ships are sold. Of course other kinds of business are carried on in Bergen, but large numbers of the people get their living from the sea in one way or another.

Something to look for. If your mother has any cans of sardines, look at the labels and see if the sardines are from Norway. If they are not, ask your grocer to show you a can of Norwegian sardines. Ask him if he has any other kinds of fish from Norway.

Something to prove. Prove that the following groups of people in Bergen get their living from the sea. To do this you will need to explain how the work of each group is connected with the sea. (1) Fishermen; (2) fish merchants; (3) workers in fish-preserving factories; (4) sailors; (5) ship-builders; (6) owners of merchant ships.

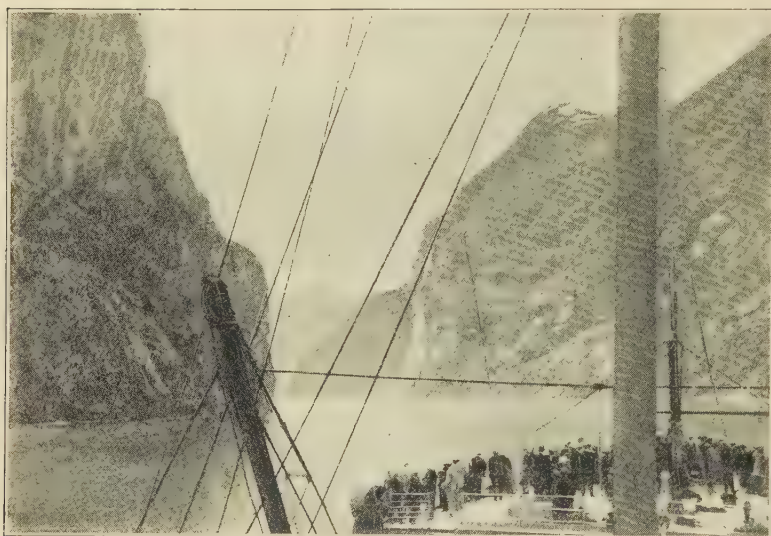
Something to do. Write a sentence telling what you understand a *harbor* to be.

NORTHWARD TO ROLF'S HOME

The mountainous coast. To reach Rolf's home we shall take a mail steamer which runs northward along the coast from Bergen. We steam down the fiord and turn northward, keeping close to the rocky shore. Is the shore east or west of us? In places the mountains seem to rise straight out of the water. In other places the shore is lower, but we can see the mountains beyond. *See Figure 110.*

A safe waterway for ships. Since our boat is keeping close to the shore, most of the islands of the skerry guard are between us and the open ocean. Are they east or west of us? The skerries protect the coast so well that the waterway near the shore is calm and safe. Even small boats can sail on it with very little danger, for there are only a few places where the islands are far apart and the water is likely to be rough.

The fiords. Every few miles we pass the entrance to a fiord that leads far back into



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Figure 111. Sailing up a fiord. Notice how narrow the fiord is, and how steeply the mountains rise on both sides. Find a waterfall in the picture. Waterfalls like this tumble down the steep walls of all the fiords. The water comes from the melting snow on the higher slopes.

the mountains. The whole western coast of Norway is broken by these narrow, winding inlets from the sea. Many of them have branches which extend from the main fiord much as the branches of a tree extend from its trunk. Some of the fiords are very long. Find the Sogne Fiord on the travel map on page 74. This is the longest fiord of all. If we should turn in here, we could sail inland for more than a hundred miles. Figure 111 is a picture taken in another fiord. Study the picture and its legend.

A coast land without railroads. Most of the people of western Norway live along the coast and on the shores of the fiords. The calm, safe waterway inside the skerry guard forms their main route of travel between the villages and towns, for there is no railroad along the coast. Turn back to the travel map on page 74, and you will discover two good reasons why the Norwegians have not built a railroad here.

First, see if you can find any part of the west coast of Norway that is not rough and mountainous. Think what the pictures have shown about the kind of country here. Is it

easy to build railroads in a country like this, or hard? Why?

Turn again to the travel map and run your finger northward from Bergen along the coast to North Cape. The distance by boat from Bergen to North Cape is about nine hundred miles. The route by land, along the crooked shore line, is *seven times as long*. No one would ever build a railroad over such a long, crooked route.

Now you know the two principal reasons that there is no railroad along the west coast of Norway. One is that the land is so mountainous, and the other is that the coast line is so long.

Using new words. Prove that you know how to use the new words that you have learned on your trip to Norway by giving the right word to fill each blank in the following sentences:

1. The line where a body of land meets the ocean is called the _____.
2. The long, narrow inlets of the coast of Norway are called _____.
3. The rocky islands which border the coast of Norway are called _____.
4. The islands and the waterways among them are called the _____.

Some things to explain. A traveler in Norway wrote the following statement: "The protected waterway inside the skerries forms the Great North Road of Norway. The fiords form the side roads, leading from the main road far into the country." Explain the following things:

1. What the traveler meant by the "Great North Road of Norway."
2. Why he called it a "protected waterway."
3. Why he called the fiords "side roads."
4. How the "water roads" make up for the lack of a railroad along the coast.
5. Why even small boats can sail on the "Great North Road" safely.



Figure 112. A group of Norwegian children. Rolf is standing at the right. Judging from the way the children are dressed, do you think the summer is very warm in this part of Norway? Explain your answer.

THE FARM BY THE FIORD

We meet Rolf. On its way up the coast our boat has stopped at several towns and villages to leave passengers, mail, and freight. Now it is stopping at a village on the fiord where Rolf lives. Rolf's farm is high up on the hillside above the fiord. To reach it we must climb a rocky, winding path from the village. On the way we meet Rolf, for he has come down from the saeter to welcome us. See Figure 112.

How the farm looks. Figure 113 shows the buildings on Rolf's farm. Round about them are small fields of grain and vegetables. Study the picture and its legend.

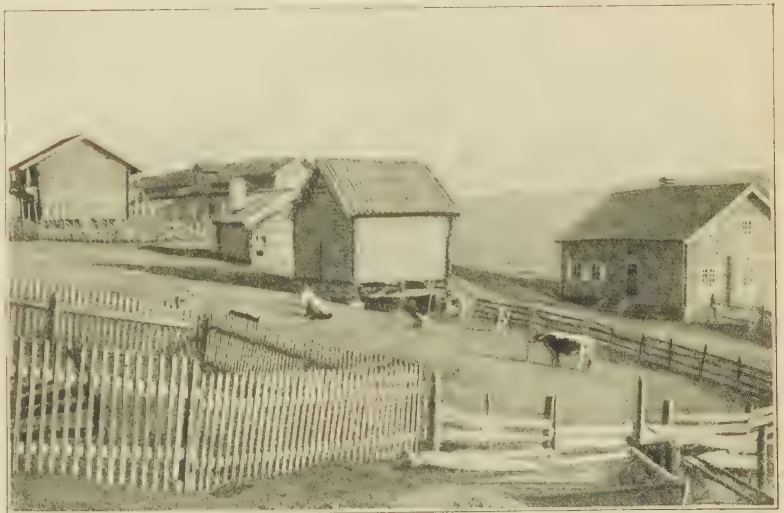
You can see that Rolf's house and the other buildings on the farm are made of wood. You already know that there are trees on the lower slopes of the mountains in Norway, and you must have guessed that the wood for the buildings comes from the forests there.

Rolf's house is heated by a wood fire in an open fireplace, but it has

electric lights and a telephone. There is hardly a farmhouse on the coast of Norway that has a furnace, yet nearly every one has electric lights and a telephone. That is because it is easy to make electricity in Norway.

You have already learned that there are many waterfalls in Norway. The country is mountainous, and there is a great deal of rain and snow. Rain water and water from the melting snow rush down the steep slopes and tumble over the cliffs in waterfalls. The falling water has great force, or *power*. Near some of the larger waterfalls the Norwegians have built power houses. In these buildings there is a kind of machinery which changes the power of the falling water into electricity. You may have seen power houses of this kind, for there are many of them in our country.

From the power houses the electricity is sent over wires to light towns, cities, and farms, to carry sounds over telephone wires, to run street cars, and even to turn the wheels of machinery in factories. It is so easy to send electricity long distances over wires that even the farmers who live far from the cities can have electric lights and telephones.



Photograph by Wilse

Figure 113. Rolf's farm on the hillside above the fiord. This picture was taken before the cows were sent up to the mountain pastures. Rolf's house is at the right in the picture. Of what material are the buildings and fences made? Where do you think this material came from?



Courtesy of Norwegian Government Railways

Figure 114. Randi and her friends playing with the goats. The white goat on the rock is Randi's special pet. Notice how steep and rocky the hillside is.



Courtesy of Norwegian Government Railways

Figure 115. The herd of goats on Rolf's farm. Goats are useful animals in this mountainous country. They are so sure-footed that they can graze in places that are too steep and rocky for cows, and they will eat coarse grass and plants that the cows will not touch.

The outside kitchen. Find the small building with the chimney in Figure 113. This is the outside kitchen. Rolf's mother has a kitchen in the house where she cooks the meals, but she does her baking in the outside kitchen. If we go over there this morning, we shall find her making something that Rolf likes very much. It is called *flatbread*.

Flatbread is made of a mixture of barley meal and oatmeal. Rolf's mother rolls out the dough in thin sheets that look like huge round cookies from two to three feet across. Then she bakes them on a big sheet of iron over the red-hot coals of a wood fire. The flatbread is crisp and hard, and it will keep a long time. In the summer Rolf's mother makes enough to last well into the winter.

The storehouse. When Rolf's mother has finished her baking, she carries the piles of flatbread over to the storehouse. This is the building shown in the center of Figure 113. In it Rolf's mother stores away her supplies of food for the winter. If you look into it, you will see the shelves where flatbread, butter, and cheese are kept, and the bins where oat-

meal, barley meal, potatoes, and dried and salted fish are stored.

The barn. Of course there is a barn on Rolf's farm. It is empty now, for the cows are up in the mountain pastures feeding out of doors. Rolf and his older sisters took them up there in June. There is a big loft in the barn for storing hay and grain, and bins for storing turnips and carrots. These are the things that the cows eat in winter.

Randi and her goats. The goats that Rolf wrote about in his letter are grazing on the rocky hillside back of the farm buildings. Rolf's sister Randi is up there playing with them. *See Figures 114 and 115.*

Randi helps her mother to milk the goats night and morning. She also helps her to make cheese from the milk. Much of the cheese that they make in summer is packed away in the storehouse for use in the winter.

Telling what you have learned. Tell of two ways in which the forests help Rolf and his family. Tell of two ways in which the waterfalls help them. Be ready to prove by the book that your statements are right.

SUMMER FARM WORK

Preparing for winter. Filling the storehouse and the hayloft and bins in the barn is the most important work on Rolf's farm in summer. The winter will be long and cold, and there must be plenty of food on hand for the people and the cows. Every member of Rolf's family does some work in summer to help to prepare for winter. You already know of two things that Rolf's mother does to get ready for winter. What are they?

Haymaking. On sunny days in midsummer you might find Rolf's mother, and even his grandmother and Randi, helping with the haymaking. Rolf's father and older brother cut the hay with scythes.

Randi and her mother and grandmother help to rake it up and hang it on fencelike racks to dry. You can see some of the racks in Figures 102 and 116. The legend under Figure 116 tells why the hay is dried in this way.

After they have cut the hay in the fields round the farm, Rolf's father and brother climb up the mountain side and cut all the wild hay that they can find in little patches among the rocks. They tie it in bundles and bring it down to the barn on their backs.

Are you surprised to learn that Rolf's father takes the trouble to cut such tiny patches of hay? So much of the land is bare and rocky that every patch of hay is precious, even if it is no larger than your teacher's desk. There are months and months when the cows must be fed indoors, and before the winter is over they will need every bit of hay that Rolf's father can gather during the summer.

Raising crops for food and fodder. From spring until fall Rolf's father and older brother spend many days working in their fields. Often his mother and grandmother



Photograph by Wilse

Figure 116. Haymaking on a Norwegian farm. It rains so often in the summer in Norway that the farmers cannot dry the hay on the ground, as farmers in our country do. They hang it on racks such as you see in the picture, so that the wind will blow through it and help the sun to dry it quickly. This keeps it from being spoiled by the dampness.

help them. First they must plant their crops, then they must care for them while they are growing, and later they must harvest them. Some of the crops are grown to provide food for the family, and the rest to provide food for the farm animals. The crops that are for the animals are called *fodder crops*.

You learned what Rolf's father raises on the farm when you looked into the barn and the storehouse. Name two kinds of grain and three kinds of vegetables that you may expect to see growing in the fields.

Crops that are suited to the country. Do you remember what Rolf's father said when Rolf asked why wheat and corn are not raised on their farm? If you have forgotten, turn back to Rolf's letter on page 73, and find out.

Wheat is a grain which needs dry, sunny weather for ripening. Corn needs weeks of hot weather in order to grow well. Tell what you have learned about the summer weather in western Norway, and then explain why Rolf's father does not try to raise wheat and corn. Oats and barley will grow in places



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Figure 117. Cutting barley on a Norwegian farm. The small curved knives that are used to cut the grain are sickles. After the grain has been cut, it is hung on poles to dry. You can see some of it drying in the distance at the right in the picture.

that are too damp and cool for wheat and corn. That is why they are the grain crops on Rolf's farm.

If you have ever seen potatoes, turnips, and carrots growing, you know that the part which we eat grows beneath the ground. Potatoes are thickened underground stems, and turnips and carrots are thickened roots. Most vegetables of this kind grow well in places that are too cool and damp for vegetables like peas and beans. That is why they are the vegetables grown on Rolf's farm.

Farming without machinery. Rolf's father and brother cannot use farming machines, because their fields are too small and hilly. They have a team of horses to pull the plow which turns over the soil, and to draw the farm wagon, but they sow the seeds and cut the grain by hand. See Figure 117.

How the farm crops are used. Part of the oats and barley is dried and stored away with

the hay for the cows to eat in the winter. The rest is *threshed*. This means that the seeds, or grain, are separated from the stalks. Some of the threshed oats will be saved for the horses to eat. The rest of the grain will be ground into meal for the family to use.

Potatoes are the most important food crop raised on the farm. They are put away in the storehouse to be eaten by the family all through the winter. The turnips and carrots are stored in the barn for fodder for the cows. The Norwegian people do not use these two vegetables for food, as we do.

As you think over the uses of the farm crops, you can see that Rolf's father and brother work as hard to raise fodder for the cows as they do to raise food for the family. That is because they need the milk, butter, and cheese which the cows give them.

Two lists to make. 1. Make a list of six crops that are raised on Rolf's farm. Put a check mark after those which are used *only* for the farm animals. Put *two* check marks after those which are used partly for food for the family and partly for fodder for the animals. How many are used only for fodder? How many are used for both food and fodder? What one is used only for food?

2. Make a list of the kinds of food that the cows provide for Rolf and his family. Explain how the raising of fodder crops is a way of getting food for the family.

Finding answers in the weather. Think over what you have learned about the weather in Rolf's homeland, and find an answer in it for each of the following questions:

1. Why does Rolf's father not raise crops the year round, as Bombo's mother does? 2. Why does he not have to worry about getting water for his animals, as Hirfa's father does? 3. Why can his cows not graze out of doors in the winter? 4. Why does he not dry his hay and grain on the ground? 5. Why does he raise oats and barley instead of wheat and corn?



Photograph by Wilse

Figure 118. The buildings at Rolf's saeter. The larger building is the house where Rolf and his sisters live during the summer, and where the girls make butter and cheese. Beyond the house is the barn for the cows.



Photograph by Wilse

Figure 119. The cows grazing on the saeter. Grass will grow high up on the mountain sides where it is too cool for trees. What can you see on the higher slopes which tells you that it is cool up here in the summer?

THE MOUNTAIN PASTURES

The saeter. While the rest of the family are busy on the farm, Rolf and his older sisters are up at the saeter with the cows. You have already learned from Rolf's letter that the saeter is the pasture land high up in the mountains. All Rolf's neighbors have saeters up there, too. In June, as soon as the snow has melted on the saeters and the grass has sprung up, the older girls and the younger boys take the cows up there to graze. See *Figures 118 and 119.*

You will have no trouble in understanding why the cows are sent to the saeters in summer if you will think out the answer to the following question: If Rolf's father should keep the cows on the farm during the summer, and let them eat the hay in the fields, what might happen to them in the winter?

Caring for the cows. Rolf and his sisters are up early every morning. The girls milk the cows, and then Rolf drives them off to the pastures for the day. He takes a lunch of flatbread and cheese with him, and spends the day watching to see that the cows do not stray away from his father's pasture land.

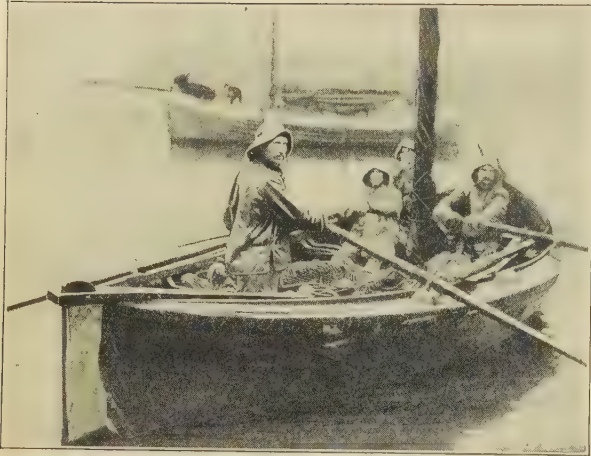
Late in the afternoon he brings them home again, and after the girls have milked them he drives them into the barn for the night.

Work and play at the saeter. Rolf enjoys the long summer days at the saeter. While the cows are grazing, he often gathers berries in the mountain pastures, or goes swimming or fishing in the streams. Sometimes he brings home fresh fish for supper. Often he plays with the boys who watch the cows on the neighboring saeters.

Rolf's sisters are very busy during the day. They churn the cream into butter, and make cheese from the milk. When they go back to the farm, they will have a good supply of butter and cheese to put away in the storehouse for use in the winter.

Giving reasons. Answer each of the following questions by giving a reason.

1. Why does Rolf's father keep cows?
2. Why does he send them up to the saeter in the summer?
3. Why can the cows not graze on the mountain pastures all the year round?
4. Why does Rolf's father raise fodder crops?
5. Why do Rolf's sisters spend the summer making cheese and butter?



Courtesy of Norwegian Government Railways

Figure 120. Norwegian fishermen. They are rowing out of the fiord to set their nets for herring. What other kind of work do they do to get part of their living?

FARMERS WHO ARE ALSO FISHERMEN

Adding to the food supply by fishing. No matter how hard Rolf's father works on his farm, he cannot raise all the food that his family needs. His fields are too small, and the summer is too short and cool. Nearly everything that is produced on the farm is used at home, and so there is very little left to sell. Of course Rolf's father needs money, for he must buy clothes for the family, furnishings for the house, tools for the farm work, and many other things.

It is the same with all the farmers along the west coast of Norway. They cannot get their living by farming alone. In order to get plenty of food and enough money with which to buy the other things they need, they have to be fishermen as well as farmers. That is why we call them farmer-fishermen.

Fortunately there are large numbers of fish in the waters along the coast of Norway. Salmon are caught in the fiords, and cod, herring, and other kinds of fish in the waters of the skerry guard. Rolf's father and the other farmers have their own fishing boats, and they fish whenever they have time. See Figure 120.

The summer herring-fishing. The fish that are most important to the people in summer are the herring. They live in the deep ocean, but toward the end of the summer they swim in among the islands of the skerry guard, and even into the entrances to the fiords. The farmer-fishermen watch anxiously for the coming of the herring. Rolf knows that the winter will be hard if the herring-fishing is poor. There will be much less food to eat, and much less money with which to buy clothes and other things.

In a good herring season the fish come in such large numbers that they can be seen a long way off. The water ripples and sparkles as they swim swiftly toward the shore. As soon as the fishermen get word that the herring are coming, they go out in their boats and set their nets. They sink the nets in the water in such a way that the fish swim into them and cannot get out. When the nets are full, they are drawn up, and hundreds of fish are caught at one time. See Figure 121.

During the herring season the fish merchants in Bergen and other cities send their boats up and down the coast to buy all the fish that are for sale. If the price of herring is high, the fishermen make a good deal of money.

Rolf's father and his neighbors do not sell all the herring that they catch. They keep what they need for their families to eat, and sell only what is left. They clean and salt the fish that are to be kept, and leave them on the rocks until they are stiff and dry. Then they carry them up to their farms and pack them away in the storehouses.

Rolf's father is always glad when he has a good supply of herring in the storehouse. He knows then that even if the other food supplies give out before the winter is over, there will still be fish to eat, and his family will not have to go hungry.

Something to explain. Give two reasons to explain why Rolf eats more fish than you do.



Photograph by Wilse

Figure 121. Norwegian fishermen pulling up a net full of herring. When the fishing is good, the nets are heavy, and the men have to work hard to lift them out

WINTER LIFE OF THE FARMER-FISHERMEN

The end of summer. Early in September, when the nights are beginning to be cold and dark again, Rolf and his sisters come down from the saeter with the cows. Soon all the crops are harvested, and the herring-fishing is over. The barn and storehouse are full of supplies, and everything is ready for winter.

Short days and long nights. As winter comes on, the days grow shorter and shorter, and the nights grow longer and longer. At Christmas time Rolf sees the sun rise at about half past nine in the morning, and set at about half past two in the afternoon. How many hours long are the days at this time of year? How many hours long are the nights?

The winter night in Norway. Rolf has some cousins who live in Hammerfest. Find Hammerfest on the travel map on page 74.

of the water and empty them into the boats. The steamers that you see in the picture belong to the merchants in Bergen who buy fish from the fishermen.

This town is nearer the north pole than is any other town in the world. If Rolf should spend Christmas with his cousins, he would find them having the period of "winter night." From the middle of November until late in January the sun does not rise in Hammerfest.

The map on page 74 shows that Rolf's home is in the part of Norway which is south of the arctic circle. Therefore there is no "winter night" where he lives.

Winter weather. Review the paragraph on page 49 that tells about the winter weather in Nandla's land. Explain why Nandla's people cannot use their boats in winter.

You have already learned why the people of Norway can have farms, even though their country is almost as near the north pole as Baffin Island is. If you are not sure that you can explain the reason, turn back to page 77 and review what you learned about the Gulf Stream and the westerly winds.



Courtesy of Norwegian Government Railways

Figure 122. Hauling logs out of the woods in winter. This is the best season for wood-cutting, for the logs can be taken from the forest to the farm on sleds which slip over the snow easily. Why does Rolf's father need to cut down trees in the forest?

The Gulf Stream and the westerly winds make the winter weather in Norway very different from the winter weather in Baffin Island. The days are cold and damp, but not so bitterly cold as they are in Nandla's land. There is snow on the ground, but the entrances to the fiords do not freeze over, and so the farmer-fishermen can use their boats all winter long.

Winter work and play. During the winter Rolf and Randi go to school in the village. As soon as there is enough snow on the ground, they get out their skis and have great fun sliding down to school on them. You probably know that skis are long, narrow snowshoes made of wood. All Norwegian children know how to use them, and skiing is their favorite winter sport.

Even in winter Rolf's family find plenty of work to do. His mother and older sisters feed and milk the cows and goats, and make butter and cheese. His father and brother repair the buildings and mend the farming tools. Now and then they harness one of the horses to a big sled and go into the woods to cut logs and firewood. *See Figure 122,*

A comparison to make. Rolf has a vacation from school at Christmas, just as you do. How many hours long are his Christmas-vacation days?

From the World Almanac find out what time the sun rises and sets at Christmas time where you live. How many hours long are the days during your Christmas vacation? How many hours longer are they than Rolf's vacation days?

Cod-fishing in the North. Although there are many other tasks to be done in the cold weather, the most important winter work is fishing. In midwinter there is another herring-fishing season. As soon as this is over, Rolf's family and their neighbors are busy getting ready for the cod-fishing. The men repair their boats and mend their fishlines. The women knit warm socks and mittens for the men to wear on the trip.

On a cold day in January the boats sail out of the fiord and turn northward. Rolf's father and brother are in their own boat, with four other men to help them. Each man will be paid with a share of the fish which are caught on the trip. Out in the skerry guard many other fishing boats are hurrying northward. They are all bound for the Lofoten Islands, far to the north. Find these islands on the travel map on page 74.

At this season of the year there are large numbers of cod in the cold waters round the Lofoten Islands, and hundreds of fishermen gather there to catch them. Although the islands are bare and mountainous, there are many villages on them. Most of these villages are fishing stations. *See Figure 123.*

The fishing stations are busy places for three or four months every year. Hundreds of boats sail out of the harbors each morning, and return in the afternoon loaded with fish. Traders on shore and fish merchants in steamships buy the cod from the fishermen. The work goes on day after day as long as the fishing is good. Toward the end of March the cod begin to be scarce, and one by one the



Photograph by Wilse

Figure 123. A fishing station on one of the Lofoten Islands. Rolf's father owns a little hut at this station. Here he and his men live during the fishing season.

Every morning they sail out on the rough, stormy sea in their boat to fish for cod. It is cold, dangerous work, but the men do not mind if only the fishing is good.

fishing boats leave for home. If the fishing has been good, Rolf's father and his men come home happy. The money that they have earned will help to buy seeds and tools for the summer farming, and extra things to make their families comfortable.

A Norwegian test. During your visit to Rolf's home you have learned about five important things in Norway which begin with *f*: *farms*, *forests*, *fish*, *falls*, and *fiords*. Each one of them has something special to do with the lives of the farmer-fishermen.

Below you will find seven sentences in which there are missing words. Each blank is to be filled by one of the five *f*'s which are so important to the people of western Norway. If you think carefully what you have learned about the country and the people, you will have no trouble in choosing the right word to fill each blank.

1. The farmer-fishermen of western Norway have small _____ on the shores of the _____.
2. The _____ provide them with food to eat and

with fodder for their animals. 3. On the lower slopes of the mountains there are _____ from which the people get building material and fuel. 4. In the _____ and the waters near the coast there are large numbers of _____. 5. The people catch the _____ for food and to sell to the merchants in the cities. 6. Tumbling down the steep mountain sides are _____, which furnish the people with electricity to light their homes. 7. The _____ and the protected waterway inside the skerries provide the people with safe routes of travel along the coast.

A Norwegian program. Some of the other children in your school will surely wish to hear about your visit to Norway. Below are some subjects on which you may give talks. Perhaps you can find some pictures in newspapers or magazines to make your talks more interesting.

- A visit to Bergen
- The fiords of Norway
- A Norwegian farm
- A summer day on the saeter
- Norwegian fishermen and their work

POLDER FARMERS OF THE NETHERLANDS

A LOW LAND BY THE SEA

Dirk and his country. Dirk is a little Dutch boy who lives in a country of Europe south of Norway. Our next visit will be to his home. The name of Dirk's country is the Netherlands. The word *nether* means "low," and so

the name *Netherlands* means "low lands." This name tells you of one way in which Dirk's country is different from Rolf's country. Explain what it is.

We shall take a steamer from Bergen to Rotterdam, a seaport of the Netherlands. The travel map on page 74 will show you our route. Turn back to that map and answer the questions in Group II on page 75. They will help you to discover some interesting things about the Netherlands.

Another map. Figure 124 on this page is a larger map of the Netherlands. It will help you to discover some more interesting things about Dirk's country.

1. Point to a group of islands bordering the coast of the Netherlands on the north. Point to a group of islands in the south. All these islands are low and sandy. How, then, are they different from the islands near the coast of Norway?

2. Run your finger along the part of the coast that lies between the two groups of islands. In what way is this part of the coast line different from the coast line of Norway?

3. Find a part of the North Sea which extends into the northern part of the Netherlands. What is its name? How does it differ in shape from the fiords of Norway?



Figure 124. A map of the Netherlands.



Figure 125. A road along the shore of the Zuider Zee. Notice how flat the land is, and what an even shore line it has. This part of the Netherlands is so low that

A comparison to make. Figure 125 shows how the land bordering the Zuider Zee looks. Study the picture and its legend. Then compare it with the picture of the Norwegian fiord on page 82. What differences do you see in the *kinds of land* bordering these two inlets from the sea?

Two kinds of coasts. The map and the pictures have shown you that the coast of the Netherlands is quite different from the coast of Norway. In the Netherlands the land bordering the sea is low and sandy, and a long stretch of the coast line is nearly straight. This part of the coast is dangerous for ships because there are no islands to protect it from the wind and waves in times of storm. The water near the coast of the Netherlands is shallow, and there are many places where ships may easily run aground. You will remember that the water near the coast of Norway is deep and safe for ships.

You will also remember that the deep fiords of Norway form long inlets from the sea on which large ships may sail far into the country. The Zuider Zee is the only large inlet

the land is lower than the surface of the sea. The road in the picture is on a *dike*, or bank, which the people have built to keep the sea from overflowing the land.

from the sea in the Netherlands, and it is so shallow that only small boats can sail on it.

When you visited Bergen, you saw a *natural harbor*. A natural harbor is one which was made by nature, not by man. The crooked coast line and the deep fiords give Norway many natural harbors. There are no harbors of this kind in the Netherlands. That is because much of the coast line is nearly straight, and even where it is crooked the water is too shallow for large ocean ships.

Now that you have learned how different the coasts of Norway and the Netherlands are, think out the answer to this question: Which coast is better suited to the kinds of work that have to do with the sea, and why?

A surprise. After you have answered the question in the last paragraph, you may be surprised to learn that shipping and fishing are very important kinds of work in the Netherlands. The Dutch people have large seaports, safe harbors, and deep waterways leading from the sea into their country, *but they have had to work hard to get them*. The next few pages will tell you what they have done.



Figure 126. Sand dunes on the coast of the Netherlands. The Dutch people have planted coarse grass on the dunes to keep them from moving inland and spoiling the farms and pastures. The roots catch the sand and make it harder for the wind to move it.

How ships reach Rotterdam. Find Rotterdam on the map (Figure 124). This city is a seaport, but the map shows you that it is not on the coast. It is some distance inland, on the banks of a river which flows westward to the North Sea. This river is called the Maas. It used to be so shallow and winding that only small boats could sail on it. The Dutch people have deepened and straightened it so that large ocean ships can now reach Rotterdam. The boat which is bringing us from Bergen will pass through this deep waterway.

The sand dunes. As our boat nears the entrance to the waterway, we can see low hills of sand along the coast. These hills are sand dunes. Where have you seen sand dunes before? If you do not remember, turn back to page 58 and study Figure 86.

The whole coast of the Netherlands is bordered by these hills of sand which have been piled up by the wind. They keep changing their shape and position much as the dunes of the desert do. Since the wind blows from the sea to the land most of the time, the dunes

move slowly inland. Beyond them are farm lands and pasture lands. Of course the Dutch farmers do not want their fields and pastures covered with sand, and so they have had to find a way to hold the dunes back. Figure 126 shows how they have done it. Study the picture and its legend.

Holland. The western part of the Netherlands, between the islands on the north and the islands on the south, is named Holland. The whole country is often called Holland, but that is not right. To call the Netherlands Holland is like calling the United States by the name of one state. Holland is the part of the Netherlands which we are going to visit, for it is the part where Dirk lives. There is one very strange thing about this part of the country: *nearly all of it is lower than the surface of the sea.*

Protecting the land from the sea. When you studied Figure 126, perhaps you thought that the sand dunes along the coast were enemies of the Dutch people, and that planting grass on them was a way of fighting them. Now that you know that the land back of the



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Figure 127. A Dutch village behind the dunes. The land on which the houses are built is lower than the surface of the sea. If it were not for the wall of sand dunes, there could be no houses or farms here, for the land would be under water.



Photograph by Ewing Galloway, N. Y.

Figure 128. A farm in Holland, where the land is lower than the sea. How does the surface of the land look? What use does the farmer make of the grass which

grows here? Point to a windmill in the picture. You will see many windmills as you travel through the Netherlands, and will soon learn how they are used.

dunes is lower than the sea, you will think of the dunes as friends of the people. They form a hilly wall along the coast, and keep the sea waters from rushing in and flooding the lower lands behind them. *See Figure 127.*

The dunes form a strong, safe wall against the sea along most of the coast of Holland, but in places there are low openings among them. If the Dutch people had not found ways to make these weak spots stronger, storm waves from the North Sea would easily break through them. At a few places along the coast big dikes of stone and concrete have been built to keep the sea from breaking through the dunes. These dikes are much higher than the one shown in Figure 125, and are often called sea walls.

In other places along the coast the Dutch people have built long stone walls from the shore out into the water. These walls are called breakwaters. As the waves roll in from the sea, they dash against the breakwaters and lose so much of their strength that when

they reach the land they are too weak to break through the low places among the dunes. Find some breakwaters in Figure 127.

The part of the Netherlands which is lower than the sea is shown in darkest gray on the map (Figure 124). If the sea should break through the sand dunes and sea walls, all this part of Dirk's country would be covered with water. Cities, towns, and farms would be destroyed, and thousands of people would either be drowned or left without homes.

Figure 128 shows how the low land in the western part of the Netherlands looks, and one way in which it is used. Study the picture and its legend.

Protecting the land from the rivers. As our boat sails up the waterway of the Maas to Rotterdam, we see many views like the one in Figure 128. In several places the farmlands are lower than the waterway, and we look down on them as we sail by. In these places there are dikes along the banks to keep the water from overflowing the land.

On the map (Figure 124) point to some of the rivers which flow across the low western part of the Netherlands to the North Sea. The Dutch people have built dikes of either brick or clay along all the larger rivers, for it is just as necessary to protect the land from the rivers as from the sea. If the river dikes should break, the water would spread over the low fields and pastures, flood the farmhouses, and drown the people.

The people who live on the low land in Holland are safe only so long as the dunes and sea walls hold back the sea, and the dikes hold back the rivers. At certain times of the year the water rises in the rivers and flows so swiftly that it wears weak places in the dikes. If the bricks are loosened or the clay washed away, the dikes are likely to break.

During these times of danger hundreds of men patrol the dikes, watching for the weak places and mending every break, no matter how small it may be. You can imagine how anxious the people are until the water goes down and the danger is over. Sometimes, in spite of all their care, part of a dike is swept away, and the low-lying lands are flooded.

Something to prove. You have learned of four things that the Dutch people have had to do to make the lowland of Holland a safe place in which to live and work. Prove that you know what they are by giving the right words to fill the blanks in the sentences below.

1. The Dutch people have built --- to strengthen the weak places in the sand dunes.
2. They have planted ---- on the dunes.
3. They have built ----- from the shore out into the water.
4. They have built ----- along the rivers.

A sand-table contest. Divide the sand table into two parts. Then choose one member of your class to make a model of the coast line of the Netherlands, and another to make a model of the coast line of Norway. When they have finished, take a vote of the whole class to decide which model is the better.

A GREAT SHIPPING PORT

We reach Rotterdam. It is only a short distance from the sea to Rotterdam. After passing a number of smaller towns, we come within sight of the great city. It spreads out over the level land on both sides of the river, and the buildings are crowded together, as they are in other large cities.

Ships from many lands. It is easy to see that Rotterdam is a great seaport. Along both banks of the river there are miles of wharves where ships of all kinds are being loaded and unloaded. There are big ocean liners and freighters from distant lands, smaller steamers from the neighboring countries of Europe, and many other boats. See Figure 129.

Besides the boats which have come up the waterway of the Maas from the sea, there are many others which have come down the rivers and canals to Rotterdam from farther inland. These are the low, flat freight barges such as you see in Figure 129. The larger barges are known as Rhine barges. In the next paragraphs you will learn where they have come from, and why there are so many of them at Rotterdam.

Map study. On the map (Figure 124) find the country of Germany. Then find the river named the Rhine. It flows *from south to north* in the western part of Germany. Trace the Rhine downstream from the southern part of the map to the place where it crosses the boundary line which separates Germany from the Netherlands. You will see that at this point the Rhine divides into two branches, and changes its name. The left branch is called the Waal. Trace the route which boats may follow from the beginning of this branch of the Rhine to the seaport of Rotterdam.

Where the Rhine barges come from. You have just traced the course of the river down which the Rhine barges come to Rotterdam.



Figure 129. A part of the harbor of Rotterdam. The large ship in the distance at the right is an ocean freighter. There is another ocean freighter nearer you at the right. Beside it are two low, flat boats called

barges. Find some other barges in the picture. Boats of this kind are used to carry freight on the rivers and canals in the Netherlands and in the neighboring countries of Europe. Find some of the canals in Figure 124.

The Rhine flows through a lowland which is called its *valley*. The valley of the Rhine in Germany has many cities where different kinds of goods are made in mills and factories. The Rhine barges are used to bring these goods down the river to Rotterdam. There the goods are loaded on ocean ships and sent to all parts of the world. The barges carry back to Germany many different things which have come from distant countries, and which the people of the Rhine valley need for their work in the mills and factories.

A gateway to the Rhine valley. Large ocean ships cannot go up the river beyond Rotterdam because the water is not deep enough for them, and so they have to be unloaded here. This means that Rotterdam is the place where the ocean ships and the river barges *meet and exchange goods*. It is a *gateway* through which all kinds of goods pass

from the sea to the Rhine valley, and from the Rhine valley to the sea.

Of course many of the ships that come to Rotterdam bring goods for the Dutch people themselves, and carry away the products of the Dutch farms and factories. But the Netherlands is a small country, and Rotterdam would be a less important port if the Dutch people were the only ones to use it. It has grown to be one of the greatest seaports in Europe — much greater than Bergen — because it is a gateway to the Rhine valley.

Making a harbor for ships. When you visited Bergen, you saw that the fiord on which it is located makes a large, deep harbor for ships. Since nature did not give Rotterdam a harbor, the people have made one by widening and deepening the river. Years ago they began to dig deep, oblong-shaped basins which reach into the land on both sides of the river.



Courtesy of Travel

Figure 130. Freight barges on a canal in Rotterdam. The barges bring food supplies to the city from the surrounding farm lands, and carry back goods which the people on the farms buy from the city merchants.

These basins are called *havens*, which is the Dutch word for "harbors." They lead off the main part of the river, and each one provides space for many ships to load and unload at the same time. Bordering each one are piers, wharves, and big buildings for storing all kinds of goods.

There are special havens for special purposes. Some are for ocean liners, and some are for freighters and barges. The haven shown in Figure 129 is principally for ships that bring grain to Rotterdam. The big buildings numbered 2 and 3 in the picture are used for storing wheat and other grains which are to be sent inland by train or barge.

Dutch merchant ships. On many of the freighters in the havens you will see the Dutch flag. These freighters are merchant ships belonging to shipping companies in Rotterdam. They make voyages to all parts of the world, carrying goods for people of other countries, just as the merchant ships of Bergen do. How do these freighters earn money for their owners in Rotterdam? You could spend days and days visiting the different havens, and you would find each one crowded with boats.

The crowded city. In many ways you will find Rotterdam much like the big seaports in our own country. Along the wharves which border the havens there are miles of railroad tracks and hundreds of freight cars, for freight trains as well as river barges meet the ocean ships at Rotterdam and exchange goods with them. In the business section of the city, stores, office buildings, banks, hotels, and theaters stand close to one another. The streets are filled with automobiles and wagons, and the sidewalks are crowded with people.

The canals. There is one way, however, in which Rotterdam is different from any of the seaports or other cities in the United States. It has many canals which run through the city and out into the surrounding country. There they join other canals, and also rivers, which lead to other cities. Figure 130 shows how the canals in Rotterdam are used.

Seaport sights. You have now visited two seaports, Bergen and Rotterdam, and you have seen some interesting differences between them. Arrange the phrases below in two lists. In one list put all the phrases which describe Bergen, and in the other all those which describe Rotterdam.

- A city spread out on low land
- At the head of a deep fiord
- Many fishing boats
- A man-made harbor
- A city walled in by mountains
- On the banks of a river
- A natural harbor
- Many river barges
- A gateway to the land behind it

Two important questions. Remembering what you have learned about Bergen and Rotterdam, answer the following questions:

1. Is it better for a country bordering the sea to have deep water along its coast, or shallow water? Why?

2. Which do you think is of greater help in the growth of a seaport, a good natural harbor or a good connection with the land behind the port? Explain your answer.



Figure 131. Cows grazing in a meadow beside a canal. The farmer who owns the cows lives in one of the houses that you can see in the distance.



Figure 132. Windmills along a canal in Holland. The men in the small boats are fishing in the canal. The path at the right is on the top of a dike.

A CANAL TRIP

Sailing north from Rotterdam. Dirk lives on a farm north of Rotterdam. To reach his home we may take a train, an automobile, or a boat that runs on one of the canals. We choose the boat, for it will move more slowly than a train or an automobile, and so we shall have a better chance to see the country.

Probably you have never taken a canal trip, for we have only a few canals in the United States, and they are used principally by boats which carry freight instead of passengers. In our country we travel mostly in steam or electric trains or in automobiles.

There are many railroads in the Netherlands, but there are even more canals. With the rivers they form a network of waterways by means of which nearly all parts of the country can be reached by boat. Passenger boats, as well as freight boats, run back and forth on the canals, and the people travel on them a great deal.

Seeing pictures. The next four paragraphs were written by a traveler in Holland. They will tell you about some of the things that you will see on your way to Dirk's home. You will get four clear pictures, one from each paragraph. After you have read the traveler's story, close your eyes and describe each of the pictures to

one of your classmates. Ask him to check you from the book. Do not try to remember the words of the book, but tell what pictures the paragraphs have given you.

We left Rotterdam early in the morning on a little steamboat which was going north on one of the canals. It was a bright, sunshiny day, with a cool breeze from the west; the meadows were fresh and green, and the sweet smell of new-mown hay was in the air.

The canal was like a quiet river, and there were ducks and geese swimming in it. They paddled away as fast as they could when they heard the chug-chug of our little boat. Black-and-white cows, grazing quietly in the meadows, raised their heads and gazed wonderingly at us as we sailed by.

We passed comfortable-looking farmhouses in the midst of flower-spangled fields, and stopped at neat little villages where the housewives were scrubbing their doorsteps with soap and water.

Of all the sights we saw, the windmills were the most beautiful. There they stood, with their sails set and their giant arms turning lazily in the morning breeze. They looked for all the world like brave, patient protectors of the land at their feet, — which, indeed, they really are.

Picture study. Study the pictures on this page. Which of the four paragraphs above does Figure 131 match? Which one does Figure 132 match?



Figure 133. A view in the polder land. The man and the little boy are walking on a dike which separates two polders. The polders are the low, flat lands at the left and right. On either side of the dike are the canals

that run round the polders. Point to them in the picture. The water from the polders drains into the canals through ditches. From these canals it is pumped to a higher and larger canal and carried away to the ocean.

LAND WON FROM THE WATER

Long ago in Holland. On your canal trip you are learning how the low land of Holland looks today. Long ago it was very different, for it was full of lakes and swamps. Much of the land was so wet and swampy that it could not be used for farming. The Dutch people knew that there was good soil on the bottoms of the lakes and in the swamps, and that they could have much more land for farms and pastures if they could get rid of the water. Dirk would like to tell you how they won the land from the water, for every Dutch boy and girl is proud of what has been done.

How the land was drained. The farmers who began the work of winning the land built dikes of earth round small sections of swampy ground. Then they dug ditches across the land *inside* the dikes. The water in the soil drained into these ditches and so left the land dry

enough for gardens and pastures. Next, the farmers had to find a way to get rid of the water in the ditches, for if they were not emptied the water would soon overflow the land.

In those days there were no steam engines or gasoline motors; so the farmers built windmills to lift the water out of the ditches. Once the water was lifted, it could be poured off outside the dikes where it would do no harm.

You know how the Dutch windmills look, for you have seen them in Figures 128 and 132. Each one has four arms made of strips of wood. Long pieces of cloth are fastened to the arms to act as sails. When the wind blows against the sails, the arms turn round and round, and as they turn they run the pumps which lift the water.

By digging ditches and building windmills to get rid of the water, the farmers drained the low ground inside the dikes and turned swamps into farm lands and pastures. But

their farms were safe only so long as the wind blew. If it stopped blowing, the pumps stopped working. If there was not much wind for several days, the water from the ditches overflowed the fields, damaging or spoiling the crops and making the pastures too wet for the cows. Fortunately the wind blows most of the time in Holland, and so these accidents did not happen often.

Every year the farmers built more dikes and drained more ground. Little by little they won the land from the water, until today Holland has miles and miles of drained lands which are used for farms and pastures. These drained lands are called *polders*, and the western part of the Netherlands is often called the *polder land*.

Polders of today. The polders which you will see in Holland today are much larger than the first ones, for the Dutch people have found better ways to drain the land. The water in the ditches drains into small canals which run round the polders inside the dikes. Pumps run by steam engines, gasoline motors, or electricity lift the water from the smaller canals to larger and higher canals outside the dikes. The larger canals carry the water to the sea, or to rivers which flow to the sea. Figures 133 and 134 will help you to understand better how the polders are drained.

When the Dutch farmers had nothing but windmills for pumping the water, they drained only the swampy parts of the land. Since they have had machinery to help them, they have drained the water from many of the lakes. The polders which were once lake bottoms make the best farm lands.

In some of the polders the water is still pumped by windmills. As you watch the big



Figure 134. A steam pumping station in the polder land. In the building with the tall chimney is the machinery which pumps the water from the lower canal at the right to the higher canal at the left. The higher canal is large enough so that it is used as a waterway for passenger and freight boats as well as for draining the land.

arms turning in the wind, remember that they are sucking up water from the land and helping to make farms and pastures for the people. Remember, too, that all over the polder land steam, gasoline, and electric pumps are doing the same work. If the windmills and pumps should stop working for even a week, the ditches and canals would overflow, and the land would be flooded.

Not all the windmills in Holland are used to pump water from the land. Some are used to turn the wheels of machinery which does other kinds of work, such as grinding grain or sawing wood.

Telling Rolf about the polder land. Here are some questions that Rolf might ask if he were looking at the pictures on pages 99, 100, and 101 of this book. Try to answer each question clearly for him.

1. What is the polder land?
2. Why are there so many canals there?
3. Why are there so many windmills? How do they work?
4. What are the dikes for?



Courtesy of Travel

Figure 135. Dirk, whose home is on a farm in the polder land of Holland, where the land is lower than the surface of the sea.



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Figure 136. Dirk's house. You can see that it is a long, low building with a steep roof. It is built of brick, covered with a thin coating of plaster. The roof is made of red tiles. Nearly all the houses in Holland have steep roofs. What does this suggest to you about the weather in Dirk's country?

DIRK'S HOME IN THE POLDER LAND

We meet Dirk. On its way through the polder land our little boat stops at several villages to leave passengers and take on others. At one of these villages we find Dirk. Figure 135 shows him standing by the canal, waiting to meet us and take us to his home. The cap, suit, and wooden shoes which he is wearing are his everyday clothes. If it were Sunday or a holiday, you would find him dressed in clothes and shoes such as American boys wear.

A walk with Dirk. Dirk's farm is about a mile away. Leaving the village, we walk along a road on the dike beside the canal. The road is paved with bricks and is bordered by rows of trees. The branches and leaves of the trees shade the road, and the roots help to make the dike stronger.

There are miles and miles of such dikes in Holland. When you think that the Dutch people have built every one of them, and that they have dug the canals, paved the roads,

and planted the trees, you can understand how hard they have worked to have homes, farms, and good roads in the polder land.

Soon we leave the road and take a path across the polder. The walk through the grassy meadows is a pleasant one. The drainage ditches divide the polder land into oblong blocks so that it looks like a big green checkerboard. There are buttercups, forget-me-nots, yellow daisies, and red poppies growing along the banks of the ditches, and white swans swimming about in the water. We pass several black-and-white cows nibbling the green grass, and we can see many more farther away. Dirk says that these cows belong to his father.

Dirk's house. Figure 136 is a picture of Dirk's house. In front of the house is a vegetable garden, and behind it is a grove of trees. Study the picture and its legend.

Wherever you travel in the Netherlands you will find that most of the houses are made of brick instead of wood, and that most of the roofs are covered with tiles instead of

wooden shingles. Perhaps you can guess from this that wood is scarce in the Netherlands. The country used to be well covered with trees, but most of the forests have been cut down to make room for farms. Today the Dutch people have to buy wood from other countries. Name some other European people who might sell wood to the Dutch.

There is plenty of good clay in the Netherlands, and the people use it to make bricks and tiles. It is much cheaper for them to build houses of materials made in their own country than to build them of wood brought from other countries.

Barns and haystacks. Close to Dirk's house are two barns for the cows, and a number of smaller farm buildings. Between the barns is a huge haystack, which is protected from the rain by a steep, four-sided roof thatched with smooth straw. The edges of the roof extend beyond the haystack, so that whenever it rains the water runs off the thatch and drops to the ground without harming the hay. See Figure 137.

Finding reasons. Read the fact which is stated in the beginning of each sentence in the left column below, and then find the correct reason for the fact among the endings of the sentences in the right column. Remember that the endings are not in the right order.

- | | |
|---|--|
| 1. Dirk's house is built of bricks and tiles because | it rains often in the Netherlands. |
| 2. Wood is rather scarce in the Netherlands because | clay is more plentiful than wood in the Netherlands. |
| 3. The Dutch people build houses with steep roofs because | most of the forests have been cut down. |



Figure 137. The barns and the haystack on Dirk's farm. The roof over the haystack can be moved up and down on the four poles which support it, so that it can always be kept close to the hay.

DAIRY FARMING

How Dirk's father gets his living. Dirk's father is a dairy farmer. That means that he gets his living by keeping cows and selling milk, cream, butter, and cheese. These are called *dairy products*.

Dirk's mother keeps some hens so that the family may have plenty of fresh eggs. His father has a garden in which he raises peas, beans, and a few other vegetables for the family to eat. He buys the rest of their food and everything else that they need with the money that he gets by selling his dairy products.

Something to hunt for. One sentence in the paragraph above tells something that shows that the summer is warmer in the Netherlands than in Norway. Read the paragraph again and see if you can find the sentence. If you cannot do so, you need to turn back to page 86 and read the second paragraph in the first column.

When you sailed southward from Bergen to Rotterdam, you were moving toward the equator. The Netherlands is a long distance



Figure 138. Dirk's father milking the cows. In the summer time the cows are milked in the pastures where they graze, and the milk is carried back to the farmhouse in big wooden pails.

from the equator, and therefore it is not a hot country. But it is nearer than Norway to the equator, and so it is warmer in summer. That is why Dirk's father can raise vegetables which cannot be grown on Rolf's farm in Norway.

How Dirk's father uses his polder land. The vegetable garden is a very small part of Dirk's farm. His father uses most of his polder land for pastures and hayfields. The pastures provide fresh green grass for the cows to eat during the warm weather, when they can graze out of doors. The hayfields provide hay for them to eat in the cold weather, when they have to stay in the barns. In addition to the hay which he raises on the farm, Dirk's father buys grain for extra feed for the cows.

Caring for the cows. The most important work on the farm is the care of the cows. There are fifty of them, and they must be milked night and morning every day in the week. They must be well fed all the year round so that they will give plenty of milk. In summer they graze in the pastures, but in winter Dirk's father feeds them indoors. He is careful to keep them clean and healthy, so that their milk will be pure and good. See *Figure 138*.



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Figure 139. Dirk's mother raking hay. The big horse-drawn rake is one of the farming machines that are used in the polder land. How is the hay cut and raked on Rolf's farm in Norway?

Haymaking. The next most important work on the farm is the raising of hay for the cows to eat in winter. In June you would find Dirk's father and his hired man busy in the hayfields. They cut the hay with mowing machines and leave it on the ground until it is partly dried by the sun. Then they rake it up in piles to finish drying. Dirk's mother often helps the men to do the raking. Figures 139, 140, and 141 and their legends will tell you more about the haying.

As you watch the haymaking in the Dutch polder land, you will surely think how different it is from the haymaking on the mountain-side farms of Norway. You remember that the Norwegian farmers cut and rake their hay by hand. The Dutch farmers have mowing machines and horserakes, which make the work much easier. When you visited Rolf, you learned why the Norwegian farmers do not use farm machinery. Explain the reason. This helps to answer the question about farming, which you were asked on page 73.

You have learned that the Dutch farmers dry their hay on the ground. Why do the Norwegian farmers not do the same? What difference in the summer weather in the two countries does this suggest to you?



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Figure 140. Loading hay on the farm wagon. The hay has been dried on the ground, and is now ready to be taken from the fields and stacked up for the winter. How is the hay dried on Rolf's farm?

You have seen that Rolf's father stores his hay in the barn during the winter, while Dirk's father stacks his hay out of doors, where it is protected only by a roof of thatch. This fact too has something to do with the difference in the weather in the two countries. In the Netherlands the winter weather is cold, but it is not nearly so damp as in Norway. If the Norwegian farmers left their hay out of doors, it would soon be spoiled by the dampness.

How Dirk helps his father. Dirk is not old enough to milk the cows or do any of the heavy work on the farm, but he helps in another way. His father sells milk and cream to some of the people in a neighboring town, and Dirk delivers it at their houses. You never could guess how he carries the milk and cream to the town.

Dirk has a dog named Jan. He is a great pet in the family, and he also helps in the daily work. Early every morning Dirk fills a small cart with cans of milk. Then he harnesses Jan to the cart, and off they go to the town. Jan trots along as steadily as a little pony, pulling the cart behind him. When they come home with the empty cans, Dirk often jumps into the cart and has a fine ride.



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Figure 141. Stacking the hay. The hay is brought from the polder in the farm wagon and stacked up under the thatched roof. Where does Rolf's father store the hay for his cows to eat in the winter?

Making cheese to sell. Dirk's father sells only a small part of his milk and cream. The cream from some of the milk is used to make butter, but most of the milk is made into cheese. This is Dirk's mother's part of the farm work. She has a dairy maid to help her, and they make ten or twelve big cheeses every day, five or six in the morning, and five or six more at night. The newly made cheeses are soft, and they have to be kept for some time before they are good to eat. Every week several dozen are ready to be sold.

Market day. Friday of each week is market day, when the cheeses are sold. Early in the morning Dirk's father harnesses one of his horses to the farm wagon and loads the wagon with cheeses. Then he drives off to a large town several miles away. In the summer time, when school is closed, Dirk goes with him. As they drive along, other dairy farmers join them, and soon there is a procession of loaded wagons moving toward the town.

When Dirk and his father reach the town, they drive to the place where the cheese market is held. Figure 142 shows how the market place looks before the buying and selling begin.

The cheeses are bought by merchants, who sell them to stores, hotels, and restaurants in the cities or send them away to other countries. The merchants walk about among the wagons, feeling of the cheeses to see if they are good, and choosing those that they wish to buy. Dirk's father never has any trouble in selling his cheeses, for they are made carefully from the best of milk. See Figure 143.

Other ways of selling dairy products. Many of the dairy farmers get their living just as Dirk's father does, but there are many others who do not make cheese on their farms. They sell their milk to dealers in the cities, or to factories where butter, cheese, and condensed milk are made.

Except for a few vegetables which they grow to eat in the summer, the dairy farmers of Holland do not raise many food crops on their farms. They can get a better living by using the land to grow feed for the cows and by selling the dairy products. They carry on *one kind of farming*, and in this way they earn money enough to buy the things they need.

Something to do. The next time you are in a grocery store, ask the grocer if he sells any Dutch cheeses. Perhaps he will show you one.



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Figure 143. A merchant buying Dirk's father's cheeses. The men have agreed on a price for the cheeses, and are shaking hands to show that the sale is made.

OTHER USES OF THE POLDER LAND

Market gardening. Dirk's cousin Willem lives on a farm farther north in the polder land. His home is not far from the big city of Amsterdam. Find Amsterdam on the map (Figure 124). Willem's farm is much smaller than Dirk's, and the land is used in a different way.

Willem's father makes a business of raising cabbages, cauliflowers, tomatoes, cucumbers, and other vegetables. Every week he sends several wagonloads of them to Amsterdam and sells them to the market men there. His farm is called a *market garden* because it supplies vegetables to the markets in the city.

At whatever time of year you visit Willem's farm, you will find his father busy raising vegetables. In the summer he grows them out of doors, and in the winter he grows them in glass houses heated by steam. See Figure 144.

There are many large cities and towns in the Netherlands, and the people who live in them need



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Figure 142. Wagons loaded with cheese at the market place. The dairy farmers have driven in from the polder land for miles round the town, and are waiting to sell their cheeses when the market opens.



Figure 144. A market garden in the polder land. In the background are the glass "greenhouses" where vegetables are grown in the winter.



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Figure 145. Rika in a field of hyacinths on her farm. Rika's father grows thousands of hyacinths, tulips, and daffodils on his polder land.

fresh vegetables the year round. The Dutch market gardeners have plenty of work to do, for besides supplying the markets of their home country, they send large quantities of vegetables to neighboring countries.

Bulb-growing. Figure 145 is a picture of a little Dutch girl named Rika. She too lives on a farm in the polder land, but her farm is different from either Willem's or Dirk's. The picture and its legend will tell you how Rika's father uses his polder land.

If you visit Rika's home in the spring, you will see fields and fields of blue, white, and purple hyacinths; red, pink, and black tulips; and yellow daffodils. The air is filled with the sweet smell of the hyacinths, and the whole farm looks like a carpet of beautiful colors.

You may be surprised to learn that Rika's father does not raise the flowers for their blossoms. He is a bulb-grower, and it is the bulbs of the plants that he sells, — not the blossoms. No doubt you have seen tulip or hyacinth bulbs, for we often buy them to set out in our gardens or to grow in pots in our houses. They look somewhat like onions. Rika's father and the other bulb-growers of Holland send bulbs to all parts of the world.

Telling Dirk about Rolf's farm. Here are some questions that Dirk might ask if you should tell him about Rolf's farm. Try to answer each question clearly for him.

1. Why doesn't Rolf's father have big hay-fields and pastures, as my father does?
2. Why isn't he a dairy farmer like my father?
3. Why doesn't he dry his hay on the ground?
4. Why doesn't he raise as many kinds of crops as we raise in Holland?
5. Why doesn't he use farming machinery?
6. Why does he do other kinds of work besides farming?

Land, weather, and farming. If you have answered the questions correctly, you have proved to yourself that the land and the weather in the Netherlands are better suited to farming than the land and the weather in Norway are. The Dutch farmers can have larger fields and pastures and raise more crops than the Norwegian farmers can because their land is level instead of mountainous. They can grow more *kinds* of crops because the summers are longer and warmer in the Netherlands than in Norway. Because their country is so well suited to farming, they do not need to do any other kind of work.



Figure 146. Ice-boating on a frozen lake in Holland. The ice boats have runners like sleds, and they sail very fast. The Dutch people often have ice-boat races.

WINTER TIME IN HOLLAND

Winter changes. You have been learning how the polder land looks in summer. In winter it looks quite different. The canals and rivers are frozen over, the fields and pastures are often covered with snow, and there is no farm work going on out of doors.

Winter work. Although crops cannot be raised in the fields in winter, the farmers are not idle. Dirk's father has to feed and milk the cows every day, and take the cheese to market every week. Willem's father raises vegetables in his greenhouses much as he raises them out of doors in the summer. Rika's father is busy caring for the thousands of flower bulbs which he will set out in the fields as soon as the warm weather comes again.

Winter play. Instead of seeing boats and barges on the canals in winter, you would see hundreds of people skating, and many others riding in little sleighs on the ice. Dirk and Willem and Rika skate to and from school, for it is much more fun to skim over the frozen canals than to walk along the roads in the cold wind. Figure 146 shows another way in which the Dutch people enjoy themselves in winter.

DUTCH FISHERMEN

Fishing villages. Since the Netherlands borders the sea, you will not be surprised to learn that many of the people are fishermen. They live in villages and towns along the coast of the North Sea and the shores of the Zuider Zee. See Figure 147.

The North Sea is one of the best fishing grounds in the world, and the Dutch fishermen are as brave and skillful as the Norwegian fishermen. They go out in their boats in all kinds of weather to catch herring, cod, and other fish. Many of the fresh fish are sent to the cities of the Netherlands and Germany. Large numbers of the herring are salted and dried, as they are in Norway.

There are no farmer-fishermen in the Netherlands as there are in Norway. The fishermen get their living entirely by fishing, and the farmers get theirs entirely by farming. That is because the Netherlands is so well suited to farming that the Dutch farmers do not have to do any other kind of work.

A large fishing port. Along the coast of the North Sea there are several large fishing ports. The largest one is near the entrance to a canal which forms a deep waterway leading from the North Sea to Amsterdam. If you should visit this port, you would find many people building boats, and making sails, ropes, fishing nets, and other things that the fishermen need. You would see fishing boats being unloaded at the wharves, and railroad trains waiting to carry the fresh fish to Amsterdam and other cities. You could even visit a school where Dutch boys learn how to be skillful fishermen.

Checking f's. When you visited Norway, you learned of the five things beginning with *f* which are so important to the Norwegian people. What two of these *f*'s are also important in the lives of the Dutch people? Why are there no fiords in the Netherlands? Why are there so few forests? Why are there no falls?

Something to do. On the sand table make a model of Holland. Show the sand dunes along the coast, and the low, flat land behind them. Use a piece of blue paper to show the sea on the outer side of the dunes, placing it so as to show that the surface of the sea is higher than the surface of the land behind the dunes.

Divide the low, flat land into polders, with the dikes and ditches running round them. Put some paper cows in one polder, some paper vegetables in another, and some paper flowers in a third. Perhaps you can make a little model of Dirk's house, and another of a windmill. Try to make some paper boats to put in the water along the coast.

When you have finished the model, invite some of the other children in your school to see it.

A Norway-Netherlands test. You have learned that the differences in the weather and the surface of the land in Norway and the Netherlands make a great difference in the way the people live. Prove that you understand these differences by filling the blanks in the following sentences either with the name *Norway* or with the name *the Netherlands*. In some of the sentences you are also to supply an ending which will give the reason for the fact stated.

1. ----- is a mountainous country.
2. ----- is a low, level country.
3. The surface of the land in ----- is better suited to farming because -----.
4. ----- has cooler weather in summer than ----- because -----.
5. The farmers in ----- can grow more kinds of crops than those in ----- because -----.
6. ----- has low, level pastures.
7. ----- has high mountain pastures.
8. In ----- the cows graze on the farms in the summer.
9. In ----- the cows are sent away from the farms in summer because -----.
10. In ----- the farmers can keep enough cows to get their living by dairy farming alone because -----.
11. In ----- many of the farmers are also fishermen because -----.



Figure 147. Dutch children who live in a town on the shore of the Zuider Zee. Their fathers are fishermen. They live in little brick houses close to the water, and the fishing boats are tied up almost at their front doors.

Some things to explain. Try to explain the following things clearly :

1. How the rivers in Norway help the people.
2. How the rivers in the Netherlands help the people.
3. How the rivers in the Netherlands sometimes harm the people.
4. Two ways in which the canals in the Netherlands are used.
5. Two ways in which the windmills in the Netherlands are used.

Placing travel pictures. If you have had a kodak with you on your travels, you must have taken many pictures. Below are the titles of some of them. Read each title, and name the country where you took the picture: Belgian Congo, Baffin Island, Arabia, Norway, or the Netherlands.

- | | |
|----------------------|----------------------|
| A camel caravan | A kayak |
| Canals and windmills | A waterfall |
| Traveling by teapoy | A dog sledge |
| An igloo | Climbing an oil palm |
| The skerries | A desert pool |
| A date palm | Grass-roofed huts |
| The midnight sun | Making flatbread |
| A field of tulips | A dog cart |
| Banana plants | An umiak |
| An oasis | Cows on the polder |
| Cows on the saeter | Weaving tent cloth |



Figure 148. André, who is a little French boy. The pronunciation of his name is "An-dray."



Figure 149. André's mother and baby sister in the doorway of their house. The house is in a village in a part of northern France known as the Paris Basin. The Paris Basin is part of the central plains of Europe.

PEASANTS OF NORTHERN FRANCE

AN AIRPLANE TRIP TO PARIS

André and his country. Figure 148 is a picture of André, the little boy whom we are going to visit next. André's home is in France, which is another country of Europe. In Figure 149 you can see André's mother and baby sister in the doorway of their house. Study the picture and its legend.

Before you read the next paragraph find André's country on the travel map on page 74, and answer the questions in Group III on page 75.

You have located André's home on the map and learned that it is not very far from Paris. Paris is one of the largest cities in the world. You have found that it is on a river called the Seine. This river flows into the English Channel, which is a part of the Atlantic Ocean. We are going to travel to Paris from Rotterdam in a wonderful way.

Have you ever wished that you could ride in an airplane and find out how it feels to fly through the air like a bird? If you were in Rotterdam now, you could step into a big airplane and fly to Paris. In an airplane the trip takes only three hours. If you made the trip by train, it would take a whole day.

The story of a real airplane trip. The next paragraphs were written by an American traveler in Europe. They will help you to imagine what you will see and how you will feel as you fly over the Netherlands, Belgium, and France to Paris.

The big airplane was painted blue, and had two powerful motors. The width inside was about five feet and the height was a little more than six feet. The pilot sat at a steering wheel much like that of an automobile, and his assistant sat beside him. There was room for four passengers in front of them and eight back of them, besides storage space for mail and



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Figure 150. A picture taken from an airplane a few miles from Paris. The plane was flying low enough to give the passengers a good view of the earth beneath them. The black parts of the picture are the

dark-green trees and woods. The roofs of the houses are red, and the oblong-shaped fields on the farms are different shades of yellow, green, and brown. Try to imagine how the picture would look if it were colored.

packages. My seat, which was at the front of the car, was wicker, with a comfortable cushion.

Our speed was about a hundred miles an hour. We rushed along at a great rate, but the strange thing was that we seemed to be creeping at a snail's pace. The air was still, but we made a great breeze. At one point came a nice little rainstorm, and the drops ran across the window panes like little tadpoles.

At first we flew rather low and kept under the patches of clouds. Even at that, our distance above the ground was very great. The trains below us seemed like little toys, and the cows and sheep in the fields looked like insects.

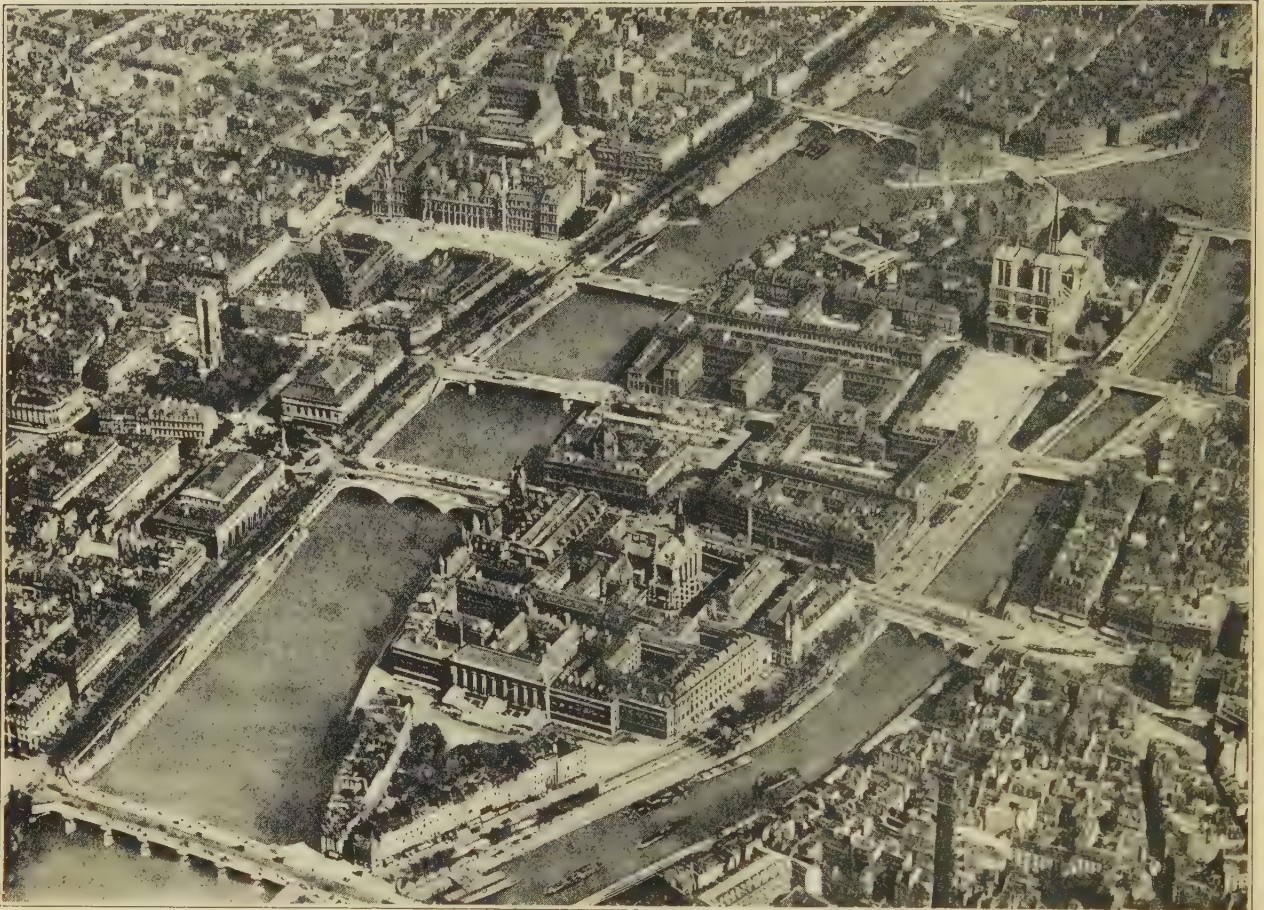
After a while we rose much higher, and for an hour we were over the clouds. Above us was the blue sky and the sun, and below us a solid bed of white clouds that looked as if one could walk on it for miles. Then we got beyond the clouds, and we could look down on the earth once more. The French farming land looked like a great

patchwork quilt of many colors: yellow, brown, red, and green.

We passed a big city, crossed a river, and then flew over a stretch of woods. Our motors slowed down a little, and we descended to the landing field. We made a great circle, hit the ground with a little bump, and ran along the field to our landing platform. I stepped into an automobile, and in twenty minutes I was at my hotel in Paris.

I have traveled by land and sea and air, and the air is the best of all.

Picture study. Figure 150 shows the kind of country that you will see from your airplane when you are nearing Paris. Study the picture and its legend carefully. What things do you see in it that the airplane traveler spoke of in his story of the trip? Is this part of France level or mountainous? How is the land between the towns used?



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Figure 151. An airplane view of the center of Paris. Point to the island where the first settlers built their homes. How is it connected with the rest of the city? Find a church on the far end of the island. This is the

Cathedral of Notre Dame, one of the beautiful churches which you will visit while you are in Paris. The building was begun over 750 years ago, and Paris was more than 650 years old at that time. How old is the city now?

A GREAT CITY

Things to see in Paris. You will enjoy visiting Paris, for it is one of the most interesting cities in the world. If you like beautiful pictures and buildings, you will visit the art museums and churches. If you want to learn about the work of the people, you will visit some of the stores and factories. You will surely want to walk along the banks of the river and see the bridges and boats.

Figure 151 shows the island in the Seine which is the very center of the city. The people who first settled Paris chose this island for their home. They had many enemies in

the neighboring country, and so they felt safer to be surrounded by water. That was long, long ago. Since then the city has grown and grown until now it spreads away for miles in all directions from the little island where the first houses were built.

A great railroad center. Turn to the map of Europe on pages 160–161. Find the country of France and the city of Paris. Notice how many railroads meet in this great city. You may think of Paris as the hub of a great wheel, and of the railroad lines as the spokes. Every day hundreds of trains come speeding into the city from all directions, bringing people and goods from other parts of France and from

other countries of Europe. Hundreds of other trains go out from Paris, carrying people and freight to all parts of France and to other European countries. Paris is a great *railroad center*, where the trains meet and exchange goods and passengers. That is one reason it is such a large and busy city.

A great river port. When you walk along the banks of the Seine in Paris, you will see many freight barges moving up and down the river, and many others being loaded and unloaded at the wharves. But you will not see any great ocean ships, as you did at Rotterdam. The Seine is not deep enough for ocean ships; so Paris is not a seaport like Rotterdam.

Turn back to the travel map on page 74, and trace the course of the Seine *downstream* from Paris. Find the city of Havre near its mouth. Havre is a great seaport. Large ocean ships come to its wharves, bringing goods from all parts of the world. Their cargoes are unloaded here, and sent to Paris and other cities of France in freight trains and river barges.

Although Paris is not a seaport, its shipping business is very large. Along the river there are miles of wharves for the barges. These river boats carry goods back and forth between Paris and other cities on the Seine and its tributaries. Paris is the great center where the barges meet and exchange goods with one another and with the railroads. This exchange of goods makes Paris a great *river port*, and is another reason that it is such a large, busy city.

Why Paris is a manufacturing city. The making of goods in mills and factories is called *manufacturing*. If you should visit the factories of Paris, you would find that almost everything you can think of is manufactured there. The things that are brought to factories to be used in the manufacture of goods are called *raw materials*. The manufactured goods are called *finished products*. For example, the wool that is clipped from the backs of

sheep is the raw material used in woolen manufacturing, and woolen yarn and cloth are the finished products.

To become a great manufacturing center a city must have ways of getting the raw materials needed by its factories. It must also have ways of sending the finished products to the places where they are to be sold and used. The carrying of people and goods from one place to another is known as *transportation*, and the *ways* of carrying them are called *means of transportation*.

The principal reason why Paris is a great manufacturing center is that it has good means of transportation. Freight trains and river barges bring raw materials to its factories from all parts of France and from other countries of Europe. Ocean freighters bring raw materials from distant lands to the port of Havre, and from there trains and barges carry them to Paris. By the same means of transportation the finished products of the factories are sent to all parts of France and Europe, and to distant parts of the world.

Things to explain. 1. Explain what a railroad center is, and name one as an example.

2. Explain what is meant by "means of transportation." Name the different means of transportation which you have used during your imaginary travels.

3. Explain what manufacturing is. Give an example of a finished product, and name the chief raw material from which it is made. Do not use the example given on this page, but think of a different one yourself.

4. Explain why a manufacturing city must have good means of transportation.

Choices to make. In the sentence below three of the phrases are right and two are wrong. Choose the correct three, and prove that they are right by reading from your book.

Paris is a busy city because it is (1) a manufacturing center, (2) a seaport, (3) a railroad center, (4) a fishing port, and (5) a river port.



Courtesy of Julia K. Drew

Figure 152. Part of André's village in the Paris Basin. The houses stand close together along the streets which meet in the square. Notice how steep the roofs

of the houses are. Surrounding the village on all sides are the farm lands where the peasants raise their crops. In what way is the land well suited to farming?

FROM PARIS TO ANDRÉ'S HOME

French peasants. In many parts of Europe, the people who live in the country and get their living by farming are called *peasants*. André's family and their neighbors are French peasants. They live in a country village east of Paris. The village is not on a railroad, but we can reach it by automobile in two hours.

The Paris Basin. The road to André's village runs through country such as you saw in Figure 150. The land is not so flat as the polders of Holland, but it is level enough to be called a plain. There are hills here and there, but they are not very high. This plain of northern France is called the Paris Basin, because it is shaped somewhat like a shallow basin, and because Paris is near its center.

As we cross the plain, we pass through a few stretches of woods, but most of the time we are riding through farm lands. We notice that there are very few farmhouses standing by themselves in the fields. The French peasants usually live together in little villages, instead of building their houses in the midst of their fields, as so many farmers in the United States do.

André's village. The village where André lives has four streets, which meet in a central square. Facing the square are the church and the schoolhouse, and in the middle of it is the pump where all the people get their water. There is only one small store, for the people do most of their shopping in a market town five miles away. Figure 152 shows how the village looks. Study the picture and the legend.

The village shepherd. If we arrive early in the morning, we shall meet the village shepherd coming down the street with his sheep, and our automobile will have to stop to let them pass. Nearly every farmer in the village keeps two or three sheep. In the morning the shepherd gathers them all into one flock, and takes them out into the pastures to graze during the day. At night he brings them home and returns them to their owners. See *Figures 153 and 154*.

What the houses can tell you. The houses in André's village are built of stone covered with rough plaster. Does this make you think that wood is plentiful in this part of France, or scarce? What does the steepness of the roofs suggest to you about the weather in the Paris Basin?



Photograph by F. A. Rugg

Figure 153. The shepherd and his flock. They are starting out to spend the day in the pastures. By paying one shepherd to take care of all the sheep, the people of the village have more time for the rest of their farm work.



Figure 154. The shepherd and his dog. They watch the sheep to see that no harm comes to them.

By now you will have guessed that there are no great forests in the Paris Basin. If there were, the people would build their houses of wood, for it is easier to build wooden houses than stone houses. You will also have guessed that this part of France has plenty of rain, for the roofs of the houses are steep.

Forests and rain. What two countries have you visited where the people build their houses of wood? Where do the people get the wood? Are their countries rainy or dry? Do you think that rainy countries are likely to have forests?

Destroying forests to make farm lands. The Paris Basin has less rain than either Belgian Congo or Norway, but it has plenty of rain for the growth of trees. Long ago this part of France was covered with forests, and the people got their living by hunting. After a long while they began to cut down the trees and raise crops on the land. As time went on, more and more of the land was cleared of trees and turned into farms, until only small stretches of woods were left.

The reason so many of the forests were cut down is that the Paris Basin is well suited to farming. The land is nearly level, the soil is good, and there is plenty of rain and sunshine to make crops grow. If the land had been mountainous, as it is in Norway, much less of it would have been cleared for farming.

Caring for the trees. Today the French people take good care of the trees that are left, for they need wood for many different purposes. There is a piece of woodland on nearly every farm. The peasants cut down only the old trees, and plant young trees to take their places. All the dead branches and twigs are gathered and carried home. By using their woodlands carefully, the peasants are able to supply themselves with fuel to heat their houses and to cook their meals.

Some things to prove. Name a place which proves that

1. Forests are found in hot, rainy lands.
2. Forests are found in cool, rainy lands.
3. Forests are not found in dry lands.
4. Forests are not found in very cold lands.



Figure 155. André's farmyard. This is the way the farmyard looks from the doorway of André's house, which you saw in Figure 149. André's father is stand-

ing in the gateway to the street. What kinds of animals do you see in the farmyard? Compare this picture with the picture of Rolf's farm (Figure 113, on page 83).

ANDRÉ'S FARM

The farmyard. André's house does not face the street as do most of the houses in our country. To reach it, we go through a big stone gateway which leads from the street into the farmyard. The house and barns are built round the four sides of the yard. Figure 155 shows how the farmyard looks. Study the picture and its legend.

Live stock. On André's farm we shall see several kinds of animals. Farm animals are called *live stock*. You already know that sheep are one kind of live stock that André's father keeps. During the cold winter the wool on the sheep's backs grows thick and warm. Every spring André's father clips off these winter coats of wool and sells them. In this way the sheep bring in a little money every year for André's family.

If we had reached André's home earlier in the morning, we should have found his mother milking the cows. There are four cows, and they provide the family with milk and cream. André's father has some pasture land on his farm where the cows graze during the warmer weather. In the colder weather they are kept in the barn and are fed on hay and other kinds of fodder that André's father raises during the summer.

You have already seen some of André's father's pigs in the farmyard. It costs very little to feed them, for they eat the scraps of food that are left from the family meals. In the autumn André's father will kill two or more of them in order to have a good supply of ham and bacon for the winter. You have also seen some hens in the farmyard, and you can easily guess that André's family has plenty of fresh eggs.

The most interesting live stock on the farm are the rabbits. They are not kept for pets, but to help to provide the family with meat. The French peasants cannot afford to buy much beef or lamb, and so they eat rabbit meat instead. It costs very little to raise the rabbits, for they eat green grass and certain kinds of green leaves. *See Figure 156.*

André's father also has a pair of horses and a pair of oxen, which he uses in his farm work. You will not see them in the farmyard this morning, for they are at work in the fields.

A list to make. Make a list of the seven kinds of live stock on André's farm. Opposite each name write a sentence explaining why André's father keeps animals of this kind.

Dinner at André's house. André's mother has invited us to dinner at noon, and so we have a chance to learn what the French peasants eat. When we sit down at the table, there is a bowl of stew made of rabbit meat and vegetables at each plate. The only other things on the table are a plate of crisp bread and a large round cheese. After we have finished the stew, André's mother brings in a salad of fresh lettuce with olive oil for dressing. The salad ends the meal, for the peasants seldom have any dessert.

If we should stay for supper at André's house, we might have an omelette of fresh eggs instead of the stew, but the rest of the meal would probably be the same as the dinner.

Where the food comes from. You already know that the meat and eggs that André's family eat come from the live stock on the farm. The cheese too comes from the live stock, for André's mother makes it from the cow's milk. Cheese-making is part of her daily work, for cheese is eaten at nearly every meal. André's mother uses most of the milk and cream in this way. When she has more cheeses than she needs, she sells some of them.



Figure 156. André's brother holding one of the rabbits. André and his brother gather fresh green grass for the rabbits to eat. Sometimes they give them young lettuce leaves or cabbage leaves.

Sometimes she makes butter, but not for the family to eat. Butter brings a high price in the market town or in Paris, and the peasants would rather sell it than eat it.

The vegetables that André's family eat are raised in their garden. Among the vegetables growing there you will see potatoes, peas, beans, onions, lettuce, and cabbages. The garden is a very important part of the farm, for André's people eat more vegetables than any other kind of food.

The only two things that you had for dinner at André's house that did not come from the farm were bread and olive oil. André's mother buys her bread from the village baker. Olive oil comes from the crushed fruit of the olive tree. This tree cannot grow in lands where the winters are as cold as they are in northern France. In southern France, where the winter is warm, there are whole hillsides covered with groves of olive trees. The olive oil that André's people use comes from these groves in the warm, sunny South.



Figure 157. French peasants harvesting wheat. The harvesting machine cuts the wheat and binds it in bundles, dropping the bundles on the ground.



Figure 158. Binding wheat by hand. The peasants who do not have harvesting machines cut the wheat with scythes, and bind, or tie, it in bundles by hand.



Figure 159. Wheat standing in shocks in the field. The wheat is left in shocks in the fields for some time so that the sun may dry it thoroughly.

The French peasants eat a great deal of olive oil. They like it as a dressing on their salads, and they need it as a food. Everybody has to eat a certain amount of fat to keep strong and well. In the United States, we get much of the fat that we need by eating butter. In France, most of the people in the cities eat butter as we do, but the peasants eat cheese with their bread and sell their butter. The olive oil takes the place of butter fat in their food.

Food and other needs. You have found that most of the food that André's family eat comes from their farm. The only kinds of food that they buy regularly are bread, olive oil, and a few things like sugar and salt. But of course they need many other things, such as clothes, furniture, and farming tools. To buy these things they must have ways of earning money. You already know of three ways in which the live stock on André's farm bring in a little money. Tell what they are.

A list to make. Make a list of the different foods produced on André's farm. If you live in the country, check the foods on the list that are produced on your own farm. If you live in the city, tell where you get the foods in the list.

WORK IN THE FIELDS

Raising winter wheat. André's father uses part of his farm land to raise two crops which he sells instead of using himself. One of these crops is wheat.

André's father plants the wheat seeds in the autumn. They soon sprout, and before the snow comes the tiny green blades are several inches above the ground. When the first snow falls, it covers the young wheat plants like a soft, warm blanket. The plants stop growing, but they do not die. There is not a great deal of snow in the winter, but what there is helps to keep the wheat from being killed by the winter cold.



© Photo—Rol

Figure 160. Threshing wheat in a French village. The threshing machine is at the right, and the engine that runs it is at the left. The men back of the machine throw the wheat into it, and the two on this side hold

bags to catch the seeds as they come out. The straw is carried up the moving ladderlike belt at the right. We use a newer kind of threshing machine in the United States, but it does the same work as this one.

When spring comes and the sun warms the fields, the little plants begin to grow again. By early summer the stalks are tall, the heads are heavy with the new seeds, and the crop is ready to be harvested. Wheat that is planted in the autumn and harvested the next summer is known as *winter wheat*.

The harvesting season is a busy time on the farm. André's father cannot do all the work himself; so he hires a man to help him. André's mother often helps too. Figures 157, 158, and 159 show how the wheat is harvested. Study the pictures and their legends.

When the wheat is dry, it is ready to be threshed. You will remember that threshing means separating the seeds, or grain, from the stalks, or straw. André's father and the other farmers do not thresh their own wheat. They

hire men to bring a big threshing machine to the village. These men thresh the wheat for all the farmers in the village.

André likes to watch the threshing machine at work. As fast as the men throw the wheat into it, the machinery inside separates the seeds from the stalks. The seeds come out through a trough near one end of the machine, and fall into bags which two of the men hold to catch them. The straw comes out at the other end of the machine, and drops in a pile on the ground. See Figure 160.

After the threshing is over, André's father loads the bags of grain on his farm wagon and carries them to the market town five miles away. There he sells the grain to a man who buys wheat for a big flour mill. Later, he sells some of the wheat straw too. See Figure 161.



Photograph by F. A. Rugg

Figure 161. André's father taking a load of wheat straw to the market town, where he will sell it. This is a second way in which the raising of wheat helps him to earn money.

Growing sugar beets. Another crop which André's father raises to sell is sugar beets. Perhaps you know that sugar beets look very different from the beets that we eat. They are much larger, and they are light-colored instead of red. From their name you will know that they are used to make sugar. The manufacture of sugar is carried on in France in large factories, just as it is in the United States.

The growing of sugar beets requires much hard work. After André's father has plowed his beet field, he has to go over it several times with other farm machines before he can plant the crop. See Figure 162.

The planting is done in the spring. While the plants are young the field has to be carefully weeded. André and his father and mother spend many summer days in the beet field, pulling up the weeds. Later, when the plants are larger, some of them are taken out so that the rest will have room to grow.

In the late autumn, the beets are plowed out of the ground and the leafy tops are cut off. André's father piles up the beets in the field and covers them with wheat straw. A few weeks later he carries them to the nearest

railroad station and sends them to a sugar factory.

The beet tops, which are the leaves of the plant, make good fodder for cows. Thus the sugar beets help André's father in two ways. They give him something that he can sell for money, and they help him to feed his cows.

Money crops. Wheat and sugar beets are the *money crops* on André's farm. That means that they are the crops which are raised to be sold, rather than to be used by the family. If André's father did not raise any money crops, he might be able to feed his family, but he would have

no means of buying clothes, furniture, farm tools, and other things that they need.

Raising fodder crops. There is still another kind of farm work that André's father must do in the summer. He must raise fodder crops for his horses, oxen, cows, and sheep to eat during the winter. If you should visit the farm in early summer, you would find him busy haying. Later, you would find him harvesting oats, and gathering carrots and other root crops for fodder. Before the cold weather comes, the barn is filled with hay and fodder, and there is no danger that the live stock will go hungry in the winter.

Mixed farming. The kind of farming that André's father carries on is called *mixed farming*. He does not use all his land for one purpose, and he does not depend on one crop or one kind of live stock for his living, as Dirk's father and Willem's father do. He keeps several kinds of live stock, and he uses his land for several different purposes, — to raise food for the family, fodder for the live stock, and crops which he can sell for money.

What other boy have you visited, besides André, whose father carries on mixed farming?

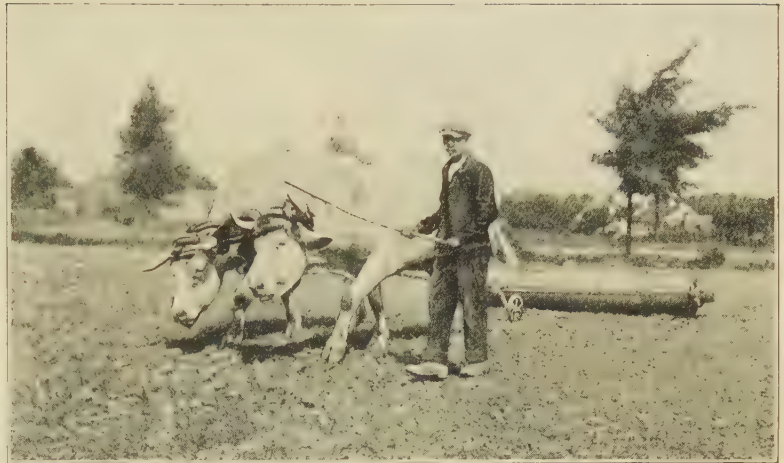
Prove that your answer is right by naming the different kinds of crops and animals that you saw on his farm.

A list to make and explain. Make a list of all the crops that are raised on André's farm, including the different kinds of vegetables. Put check marks against those which are raised on Rolf's farm in Norway. Then explain why the others are not raised on Rolf's farm.

A likeness and a difference. André's father and Rolf's father both carry on mixed farming. Neither of them gets his living by raising one crop or by keeping one kind of live stock. Instead, they both raise several different kinds of crops, and keep live stock besides. This is the likeness between their ways of farming.

You know, however, that there are many differences between Rolf's farm and André's. Rolf's father cannot raise so many different kinds of crops as André's father can, because the summer weather in western Norway is damp and cool. The fields on Rolf's farm are much smaller than those on André's farm, for Norway is mountainous, while the Paris Basin is a plain. For this reason Rolf's father cannot raise such large crops as André's father can. For the same reason Rolf's father cannot use farm machinery, and so it takes him longer to do his farm work.

The greatest difference of all between the lives of these two farmers is that André's father can get his living *by farming alone*, while Rolf's father has to carry on both farming and fishing in order to support his family. The reason for this difference is that the smoother land and the warmer weather make the Paris Basin a much better place to carry on farming than western Norway, where the land is mountainous and the weather is cooler.



Photograph by F. A. Rugg

Figure 162. Preparing a field for the planting of sugar beets. The oxen drag the heavy roller back and forth across the plowed field to make the soil fine enough for the plants to grow.

Making word pictures. You now have in your mind pictures of the different kinds of farming that you have seen in Norway, the Netherlands, and France. Describe a farm in one of these countries to your classmates. Do not tell them the name of the country. Make your word picture so clear that they can tell you where the farm is when you have finished.

Meanings to explain. Explain what is meant by (1) live stock; (2) fodder crops; (3) mixed farming; (4) winter wheat.

A "missing word" test. Supply the missing word or words in the following sentences from the list at the bottom of the page:

1. The natives of Belgian Congo do not keep cows, because their country is too ---- and -----.
2. They get the fat that they need by eating -----.
3. The Eskimos do not keep cows, because their country is too -----.
4. They get the fat that they need by eating -----.
5. The Bedouin Arabs do not keep cows, because their country is too ----.
6. They get the fat that they need by drinking the milk of ----- and -----.

LIST OF MISSING WORDS

blubber	cold	dry	palm oil
camels	damp	goats	warm

ROUND THE YEAR WITH ANDRÉ'S PEOPLE

The four seasons. In all countries where the year is divided into spring, summer, autumn, and winter, as it is in France, the work of the farmers changes with the seasons. The warmer months are the busiest, for they are the months when the crops must be planted, cared for, and harvested. They are *months of preparation for the winter.*"

Spring plowing and planting. As soon as the frost is out of the ground in the spring, André's father and his neighbors spade their gardens and plow their fields. The spading and plowing break up the soil and make it ready for the sowing of the seeds. After the plowing, several weeks are spent in planting the fields and gardens, and by early summer the grain and vegetables are growing fast.

The busy summer months. June, the month when summer begins, is haying time in the Paris Basin. The peasants are out in the fields every sunny day, mowing the hay, drying it, and carrying it to their barns. When the haying is over, the wheat that was planted in the autumn must be cut and threshed. The sugar-beet fields must be weeded until the plants are well grown, and all summer long there is much work to be done in the vegetable gardens.

There is so much work to be done in the summer months that the women often work in the fields with the men. Even the children help as much as they can. All the families in the village are up at sunrise every morning. After a breakfast of bread and cheese everybody goes to work. At noon they stop for dinner, but they hurry back to work as soon as they finish eating. Often they do not come in from the fields until after dark.

The boys and girls have only a six weeks' vacation from school in the summer, but their Christmas and Easter holidays are longer

than yours. They are glad to have their vacations come in this way, for when school is closed in the summer they have to help with the farm work, and there is not much time to play. In the Christmas and Easter vacations there is less farm work to be done; so these are real holidays for the peasant children.

Autumn harvesting. Autumn is the harvest season. There are oats to be cut and threshed, and sugar beets to be plowed up and stacked. The last of the vegetables must be gathered from the garden, and the root crops for fodder must be pulled and stored in the barn. Before it is too cold, the winter-wheat fields must be plowed and sown. When the peasants have gathered all their crops, filled their barns, and planted their wheat, they are ready for the winter.

Winter work. Winter is not so busy as the other seasons, but still there is work to be done. This is the season when the peasants cut their firewood. André's father always cuts a year's supply of wood during the winter so that he will not have to cut any during the seasons when he is busy with his crops.

Winter is also the season when the peasants repair their houses and barns, for there is no time for such work after the spring plowing begins. They mend their farm tools and machines too, so that they will be in good condition when it is time to use them again.

Year-round work. Of course the live stock must be cared for the year round. All the animals must be fed and given water every day in the year, and they must be kept warm in the winter. The cows and sheep need more care in winter than in summer, for during the cold weather they have to be fed in the barn.

André's mother and the other women have no vacations from their housework. They cook, clean, wash, and sew the whole year round. They also take care of the hens, pigs, and rabbits, milk the cows, and make the butter and cheese.



Courtesy of Julia K. Drew

Figure 163. The market place in the town. This is the trading center for the peasants for several miles round. At the little booths with the canvas roofs they buy the things they need from the people of the town.

Market day. Friday of each week is market day, when André's mother and the other women of the village drive to the market town. When André is having a vacation from school, he goes, too. His father usually goes in the winter, but in the summer he is often too busy in the fields.

You will enjoy riding to market in the farm cart with André and his mother. They are taking a few cheeses and some butter and eggs to sell. Sometimes they take fresh vegetables from the garden. Figures 163 and 164 show what you will see in the market town.

The peasants look forward to market day, for besides doing their trading they have a chance to see their friends from other villages. André always finds some boys and girls to play with. Late in the afternoon the market closes, and the peasants say good-by to one another and drive home. We shall say good-by to André and take a train to Paris.

Some things to explain. 1. Explain how the weather and the surface of the land in the Paris Basin are suited to farming. Tell why André's father can raise larger crops than Rolf's father in Norway can. Tell why he can raise more kinds of crops.



Courtesy of Julia K. Drew

Figure 164. Peasant women in the market place. They have baskets full of vegetables, eggs, and cheeses to sell to the people of the town. Can you think of some things that these women may wish to buy in the town?

2. Explain the two ways in which the peasants of the Paris Basin produce food for themselves. What foods would they have either to buy or to go without if they did not keep live stock?

3. The crops raised on André's farm are of three kinds: (1) food crops; (2) fodder crops; (3) money crops. Explain why André's father raises each kind, and why he could not get along without it.

4. Farmers who carry on mixed farming usually have two kinds of products to sell: (1) products that come from the live stock, and (2) products that come from the fields and gardens. Prove that this statement is true by making a list of all the different products which André's father and mother sell.

5. Farmers who carry on one kind of farming sell only one kind of products. Prove that this statement is true by telling what Dirk's father sells; what Willem's father sells; what Rika's father sells.

A play to give. Plan a little play in four acts to show the work of spring, summer, autumn, and winter on the farms in the Paris Basin. The class may be divided into four groups of actors, one for each act. Each group should plan to act out the work of one season, with the rest of the class as the audience. Each act may last five minutes. Invite your teacher to judge the whole play and to decide which act is best.



Photograph by Wehrli

Figure 165. A view of Interlaken, in the Alps of Switzerland. Point to a forest-covered hill in the picture. Point to a deep valley beyond the hill. In the distance you can see two mountain tops which rise above the

clouds. The one at the right is called the Jungfrau. This picture was taken in summer. What do you see on the Jungfrau that reminds you of winter? In what other country of Europe did you see the same thing?

MOUNTAINEERS OF SWITZERLAND

PLAINS AND MOUNTAINS IN EUROPE

The central plains. While you were visiting Dirk, you were on the lowest land in western Europe. We measure the height of land by its distance above the surface of the sea. You will remember that part of the Netherlands is lower than the sea. When you reached André's home in the Paris Basin of France, you were higher than the sea, but you were still on low land. The Netherlands and the Paris Basin are parts of the lowland plains which extend from west to east across central Europe.

The southern mountains. The southern part of Europe is much higher and rougher than the central part, for it is a land of moun-

tains and valleys. The highest of the southern mountains are the Alps. Their center is in Switzerland, the country which we are going to visit next. Find Switzerland on the travel map on page 74. Then answer the questions in Group IV on page 75.

Now study Figure 165 and its legend. The town, Interlaken, is in a valley which is more than a third of a mile above the sea. The snow-capped mountains in the distance are two and a half miles high. The valley *seems* low because the mountains rise so far above it, yet it is higher than the top of any hill in the central plains of Europe.

The high mountains in the picture rise so far into the cold air above the earth that the



Figure 166. A map of Switzerland. The letters X and A mark the entrances to the St. Gotthard Tunnel.

snow and ice on their tops never melt away. There are many other mountains in Switzerland which are covered with snow and ice the year round. Moving slowly down their slopes are glaciers hundreds of feet thick. There is a picture of one of the glaciers on page 137.

On page 39 you learned that the glaciers in Greenland end where they reach the sea. The glaciers in the Alps end in the valleys where the air is warm enough to melt the ice.

From Paris to Switzerland. We are going to Switzerland to visit a little girl named Gretchen, and to learn how the Swiss people live and work among the high, snow-capped mountains. We often speak of Gretchen's people as *mountaineers*. Explain why this is a good name for them.

To reach Gretchen's home we shall take a

train from Paris. Turn back to the map on page 74 and trace our route with your finger. Point to the place where we cross the boundary line between France and Switzerland.

A glimpse of the Rhine. Soon after our train leaves France and enters Switzerland, it stops at a city named Basel. Find Basel on the map of Switzerland on this page. On what river is it located? Where have you heard of that river before?

Turn again to the map on page 74 and trace the Rhine *upstream* from its mouth to Basel. Then study Figure 167 and its legend.

On Figure 166 trace the Rhine *upstream* from Basel until you come to the place where it rises, or begins. The place where a river begins is called its *source*. In what country, then, is the source of the Rhine?



Photograph by Wehrli

Figure 167. A view of the Rhine at Basel. In this view you are looking northward, *down* the Rhine. The water flowing under the bridges will travel over five hundred miles before it reaches the sea.

From Basel to Gretchen's home. In tracing the Rhine upstream from Basel, you passed a place marked G on the map. This is the place where Gretchen lives. In what part of Switzerland is her home?

Although Gretchen lives in the eastern part of Switzerland, the trip from Basel to her home takes only half a day. That is because Switzerland is a small country, much smaller than France, and only a little larger than the Netherlands. On Figure 166 trace the route which our train will follow through the mountains to Gretchen's home.

Two hours after leaving Basel we reach Zürich, the largest city in Switzerland. Find Zürich on Figure 166. You will see that it stands at one end of a long, narrow lake. At Zürich we get a beautiful view of the snow-capped Alps. See Figure 168.

From Zürich our train follows a long, narrow valley which leads through the mountains to the valley of the Rhine. Trace this part of our journey again on Figure 166. It is easy to see why such a valley makes a good railroad route. It is like a great trough with a level bottom and steep, sloping sides. Men



Photograph by Wehrli

Figure 168. A view of the Alps from Zürich. Point to the lake and to the snow-capped mountains in the distance. There are many other beautiful lakes among the mountains of Switzerland.

who build railroads always wish to lay the tracks in the lowest and most nearly level places. In mountainous countries like Switzerland, most of the railroads follow the river valleys, for these are almost the only places where there is any level land.

A "choose one" test. In each of the sentences below there is a choice of three words to be made. One choice will make the statement right, and either of the other two will make it wrong. Read each sentence carefully, think what you have learned about the Rhine, and then choose the word which will make the statement right.

1. The source of the Rhine is in

Holland.
Norway.
Switzerland.
2. The mouth of the Rhine is in

Holland.
France.
Switzerland.
3. The Rhine flows

southward
northward
eastward

 from Switzerland

land to the sea.

4. The name of the seaport which is located near the mouth of the Rhine is

Basel.
Rotterdam.
Paris.



Figure 169. A street in the village near Gretchen's home. What do the roofs of the houses suggest to you about the weather in Switzerland? Find something in the picture that tells what kind of fuel the people burn in their houses. Find something that shows that there may be telephones or electric lights, or both, in the village.

GRETCHEN'S MOUNTAIN HOME

A Swiss village. We leave the train at a station on the Rhine. Gretchen lives on a farm on the steep mountain side above the valley of the river. On the way to her home we pass through the village where she goes to school. Figure 169 is a picture taken in this mountain village. Study the picture and its legend.

Forests and rain. If you keep your eyes open as you walk through the village, you will learn some interesting things about Gretchen's country. The woodpiles outside the houses will tell you that the people burn wood for cooking and heating. As you look off at the mountains, you can see that their lower slopes are covered with trees, and so you can easily guess where the wood comes from.

You have already learned that trees cannot live without water, and that forests do not grow in dry lands. Since there are thick forests in Switzerland, you may be sure that the country has plenty of rain. The steep roofs of the Swiss houses give you still another reason to believe that it rains often in this little mountain country.

Streams and electricity. The poles and wires in the streets of the village suggest to you that the people probably have telephones or electric lights, or both, in their houses. Do you remember how the people of Norway make electricity? If you have forgotten, turn back to page 83 and read the fifth paragraph again.

The mountains in Switzerland are even higher and steeper than the mountains in Norway. The water from the melting snow and the rain form streams which run swiftly down the slopes and tumble over the cliffs in waterfalls. The

Swiss people, like the Norwegians, have built power houses to change the power of the falling water into electricity. Nearly all parts of Switzerland are supplied with electricity made in this way.

Besides using the electricity for lights and telephones, the Swiss people use its power to turn the wheels of machinery in mills and factories, and to run street cars and railroad trains. See Figure 170.

A list to make. Make as long a list as you can of the uses of electricity in the United States.



Figure 170. A Swiss railroad train drawn by an electric locomotive. Most of the locomotives in Switzerland are run by electricity instead of by steam power.



Figure 171. Gretchen's house on the mountain side above the valley of the Rhine. The trees at the left are on the steep slope that leads down to the valley. How are the fields round the house used?



Figure 172. Gretchen and her kitten. What do her clothes suggest about the summer weather in Switzerland?

The farm on the mountain side. It is such a steep climb up the mountain side to Gretchen's home that we shall be out of breath before we get there. The path leads up a grassy slope and then through some woods. Coming out of the woods, we see Gretchen's house standing in an open space where the trees have been cut down. Figure 171 is a picture of it. Study the picture and legend.

Gretchen's house is made of wood. There are so many trees on the mountain sides that wood is cheaper and easier to obtain than any other building material. The outside of the lower part of the house is covered with plaster. This helps to keep out the cold winds that sweep through the valley in the winter time.

When we reach the house, we find Gretchen playing out of doors with her pet kitten. Figure 172 is a picture of her. The picture shows how she dresses in the summer. If you should visit her in the winter, when the farmhouse is almost buried in snowdrifts, you would find her wearing warm woolen clothes, with thick stockings and heavy shoes.

A comparison to make. Compare Figure 171 with the picture of Rolf's farms on page 83. What differences do you see between them?

Finding reasons. In the left column below are the beginnings of six sentences. In the right column are the endings of the sentences, but they are arranged in a different order. The beginning of each sentence tells a *fact*. The ending of each one tells the *reason* for the fact. Read each sentence in the left column, and then find the correct ending for it in the right column.

1. Bombo, Rolf, and Gretchen live in houses built of wood because

level land is better than rough land for farming.

2. Nandla and Hirfa cannot live in houses built of wood because

the river valleys form natural passageways through the mountains.

3. Dirk and André do not live in houses built of wood because

they live where there are no trees.

4. Forests are more likely to be cut down on plains than on mountains because

most of the forests near their homes have been cut down to make room for farms.

5. Most of the railroads in Switzerland follow river valleys because

it has so many swift mountain streams.

6. Switzerland has much water power because

there are thick forests in their countries.



Photograph by Wehrli

Figure 173. Gretchen's grandfather mowing hay. He uses a scythe because the hillside is too steep for a mowing machine.

Figure 174. Gretchen's mother raking hay. Why does she not rake hay in the same way that Dirk's mother does in Holland?

Figure 175. Gretchen's grandfather bringing hay down from the mountain side. Why does he cut so much hay in the summer?

SUMMER LIFE ON THE FARM

Haymaking. The only other members of Gretchen's family who are at home this summer day are her mother and grandfather. They are both working in the fields near the house. Figures 173 and 174 show what they are doing. Study the pictures and their legends.

Nearly all the land round Gretchen's house is used for raising hay. Do you remember why Rolf's father and Dirk's father raise hay? When you have answered this question, you will not be surprised to learn that Gretchen's father keeps cows.

Switzerland, like Norway, is so rough and mountainous that there are no broad stretches of level land for farms, as there are in the central plains of Europe. Therefore the Swiss mountaineers cannot raise large crops of grain and vegetables, and they cannot get their living by farming alone. But they can earn part of their living by keeping cows and selling milk, cream, butter, and cheese. In the warmer weather the cows can graze out of doors, but during the cold, snowy winter they

must be fed in the barns. This means that the farmers must cut as much hay in the summer as they possibly can.

After Gretchen's grandfather has cut all the hay round the farmhouse, he will climb higher up on the mountain side and cut still more in the open spaces in the forest. Figure 175 shows how he brings the hay down to the farm.

As you walk round the farm, you will find that there is no separate barn. The cows are kept in a shed which is connected with the house. This makes the winter work on the farm easier, for Gretchen's father does not have to wade through the snowdrifts to feed and milk the cows.

The cow shed is empty now, and not a cow is to be seen round the farm. Perhaps you can guess where the cows are. Early in May Gretchen's father and grown-up brother took them to the high mountain pastures to graze during the summer. All the other farmers in the neighborhood have taken their cows to the mountain pastures, too; and they will not come back until summer is over.



Figure 176. Bernhard with one of his goats. Can you think why the goat wears a bell?



Figure 177. Bernhard driving the goats up the mountain side. The goats are so sure-footed that they can scramble up and down the steepest, rockiest slopes and never lose their balance.

Bernhard, the goat boy. Gretchen has another brother, named Bernhard, who is fifteen years old. He will tell you that he is a goat boy. Each family in the neighborhood keeps a few goats, and Bernhard takes care of them during the summer. Early every morning he starts up the mountain side with the goats, cracking his whip and whistling a merry tune. Strapped on his back is his knapsack, packed with bread and cheese for his lunch. *See Figures 176 and 177.*

All day long Bernhard follows the goats as they graze on the steep mountain side. He is careful to see that they do not eat the best grass, for that must be saved and cut for the cows. The goats will eat much shorter and coarser grass than the cows will, and they seem to like it just as well.

Goats are especially well suited to mountainous countries like Switzerland, for they can graze on slopes that are too steep and rocky for any other use. The Swiss people drink a great deal of goat's milk and eat a great deal of cheese made from it.

When noontime comes Bernhard climbs to the top of a rocky cliff, and sits there while

he eats his lunch. During the afternoon he drives the goats slowly down the mountain side, letting them graze as they go. Before he takes his own goats home for the night, he returns the others to their owners.

Bernhard likes his work, for it keeps him out in the fresh air all summer. He never tires of looking up at the snow-capped mountain peaks, and down on the green valley with the river racing through it. He is always sorry when his work is over for the year.

Daily work on the farm. Summer is a busy time for Gretchen's mother and grandfather, for they must carry on the farm work alone. Besides helping with the haying, Gretchen's mother makes cheese from the goat's milk nearly every day. By the end of the summer she will have a good supply of cheese put away for the winter.

Behind the house there is a garden. Here Gretchen's grandfather raises fresh vegetables for the family to eat during the summer, and potatoes to be stored away for the winter. Gretchen's part of the summer work is to help her grandfather to weed the garden and her mother to make the cheese.



Courtesy of Swiss Federal Railroads

Figure 178. Starting for the mountain pastures. The cows are driven to the high pastures to graze during the summer, and are brought back in the autumn.

Gretchen's mother knows that when winter comes her family will need warm clothes, and so she spends many an hour in the summer knitting thick woolen stockings, caps, and mittens. Summer time in Switzerland is like summer time in Norway — a season of preparation for the long, cold winter.

Telling André about Gretchen's farm. Here are some questions that André might ask you about Gretchen's farm. Try to answer them so clearly that he will understand why Gretchen's farm is so different from his own.

1. Why is Gretchen's farm so much smaller than mine?
2. Why does Gretchen's father use so much of his land to raise hay?
3. Why doesn't he raise wheat and sugar beets, as my father does?
4. Why doesn't he keep the cows on the farm in the summer time, as we do?
5. Why doesn't he use a mowing machine to cut his hay?
6. Why doesn't he use a horse and cart to bring the hay down from the mountain sides?
7. Why does he keep goats?

SUMMER LIFE ON THE HIGH PASTURES

A celebration. If you had reached Gretchen's home early in May, you might have seen what is shown in Figure 178 and what the writer of the next paragraphs describes.

The May morning when we reached the Swiss village was clear and sunny. The snow had melted away in the valley and on the lower slopes of the mountains, but we could see it shining in the sunlight on the peaks and the upper slopes.

We found the people of the village and the neighboring farms having a jolly time dancing and playing games. When we asked what the celebration was about, they told us that this was the day when the men were to take the cows to the mountain pastures for the summer.

When the games and dances were over, the men brought the cows from the sheds, and the women and children twined wreaths of flowers round their horns. All the cows wore bells which tinkled gayly. It took some time to get the cows in line, but at last they were ready to start.

The procession moved through the streets of the village and started slowly up the mountain side. The men drove the cows, and the women and children followed, singing as they went. As they passed the mountain farms, other herdsmen joined the procession with their cows.

Before long they reached a place where the families of the herdsmen had to say good-by and turn back. As the men went on up the mountain with the cows, they waved their hats and called good-by again and again. Soon they disappeared from sight in the woods, but for some time we could still hear the tinkle of the cowbells.

Up the mountain with the herdsmen. The trip up the mountain is a long, hard climb for the men and the cows. The steep path winds upward through the forest, and in places it is so narrow that the cows must walk in single file. At last they reach a place where the trees have been cut down, and where there are open spaces covered with rich green grass. Here the procession breaks up, and each herdsman takes his cows to his own pasture land.



Courtesy of Swiss Federal Railroads

Figure 179. The hut and the cows on the May pasture. The hut is built of wood from the neighboring forest. The herdsmen live in the front part, and use the back part as a shed for the cows.

The May pastures. Gretchen's father calls this pasture land his *May pasture*, because he keeps the cows here for a few weeks in May. As soon as the snow melts farther up on the mountain, he will take them to still higher pastures. There is a good reason for his wishing to leave the May pasture as soon as possible.

The hay that is grown on the farm is not enough to feed the cows all through the long, cold winter. The next best place to get winter feed for them is from the May pasture. If Gretchen's father kept his cows there all summer, they would eat all the grass, and there would be none left to cut. That is why he wishes to move on to the higher pastures as soon as he can.

Figure 179 shows the hut in which Gretchen's father and brother live during the weeks when the cows are grazing on the May pasture. Study the picture and its legend.

The high alps. Early in June the cows are taken still farther up the mountain to the highest pastures of all. These pastures are called *alps*, and it is from this word that the mountains of Switzerland get their name.

Leaving the May pasture, the men and cows start upward again through the forest. As

they climb higher, they find fewer and fewer trees. At last they reach a place where there are no trees at all, but there is grass. This is the alp. The forest is below them now. Above them are bare, rocky cliffs, and still higher is the *summit*, or top, of the mountain, which is covered with snow and ice.

When you visited Nandla, you learned that his country is so far from the equator that it is too cold for trees to grow. In Switzerland the lower slopes of the mountains are warm enough for trees, but the upper slopes are too high

and cold. Grass will grow above the line where the trees stop, just as it will grow in parts of the Far North which are too cold for trees. Still higher on the mountains it is too cold even for grass, and there are only bare rocks. You already know that many of the mountains in Switzerland are so high that their peaks are covered with snow and ice the whole year round.

The alps are so high that the snow lies on them until June, but when it melts, the grass springs up quickly. Many different kinds of wild flowers grow in the grass, and their bright-colored blossoms make the mountain pastures look like lovely gardens.

Summer work on the alp. Gretchen's father and brother have a little hut on the alp much like the one on the May pasture, except that it is built of stone instead of wood. This difference is easy to understand when you remember that there are no trees on the alp. The little stone hut serves as a house for the herdsmen and a shed for the cows during the summer months. See Figure 180.

Every morning Gretchen's father and brother milk the cows, and then turn them loose to graze during the day. At night,



Photograph by Wehrli

Figure 180. The hut and the cows on the alp. The grass provides summer feed for the cows, and the mountain stream provides water for them to drink. Why are there no trees here?

when the cows come back to the hut, they are milked again. During the day the herds- men make cheese from the milk. This is the only way in which the milk can be used, for there is no way of sending it down to the farm. Gretchen's father makes his cheese carefully, for the better it is, the more money he will get for it when he goes down to the valley in the fall. Figure 181 shows him at work in the hut.

The return to the farm. By the beginning of September it is growing cold on the alps, and the men know that the first snow will soon fall. The boys from the farms and the village come up to help to carry down the cheese, and soon everyone starts for home.

On their way down to the farm Gretchen's father and brother stop on the May pasture, for it is warm enough here for the cows to graze a few weeks longer. While they have been on the high alp, Gretchen's grandfather has come up to the May pasture and cut the grass, carrying load after load down to the farm on his back. In this way Gretchen's father gets three crops of grass from the May pasture, — the crop which the cows eat in



Courtesy of Swiss Federal Railroads

Figure 181. Gretchen's father making cheese. He is pouring the milk through a strainer into the big kettle in which the cheese is made. Gretchen's brother is milking a cow in the shed.

May, a second which is cut and carried down to the farm in midsummer, and a third which the cows eat on their way home from the alp in the fall.

Early in October the men leave the May pasture, for the weather is getting cold now. As soon as Gretchen's father reaches home he sells his cheese, for he must have money to buy clothes and other things that his family will need during the winter.

A game of farms. You have found that in some ways Gretchen's farm is like the other farms you have visited, and that in some ways it is different. Choose four of your classmates to be Rolf, Dirk, André, and Gretchen. Gretchen will ask the following questions of Rolf, Dirk, and André. If any one of them fails to answer a question correctly, some other pupil may take his place.

1. How are the buildings on your farm different from the buildings on my farm?
2. What crop does your father raise that my father raises too?
3. What kind of live stock does your father keep that my father keeps too?
4. What kinds of crops and live stock do you have on your farm that I don't have on mine?



Photograph by Wehrli

Figure 182. Swiss girls embroidering. Embroidery and lace made by the women and girls in Switzerland are sold in stores in many cities of our country.

WINTER LIFE ON THE FARM

Ready for winter. Before the first snow-storm comes, Gretchen's family are ready for winter. Her mother has knitted warm stockings, caps, and mittens for them all, and her father has bought other clothing with some of the money which he earned during the summer. The winter's supply of potatoes and cheese has been stored away, and Gretchen's father has saved enough money to buy other food as it is needed.

The cows and goats are snug and warm in the shed, and there is plenty of hay for them to eat. During the winter they will supply the family with milk. No matter how long and cold the winter may be, both the people and the animals on the little mountain farm will be warm and have plenty to eat.

Winter weather. There are many snow-storms in the winter, and the snow piles up in great drifts on the mountain side and in the valley below. Sometimes it comes up above the windows in Gretchen's house, and her father has to shovel it away to let the light in. Between the snowstorms there are days, and sometimes weeks, of clear, cold weather.

Indoor work. Of course no outdoor work can be done while the fields and pastures are buried in snow. Except for feeding and milking the cows and goats, there will be no more farm work until spring comes again.

Gretchen's family cannot afford to be idle during the cold weather. They have a little milk to sell, but they must earn money in other ways during the winter. Gretchen's father carves little toys out of blocks of wood, and her mother makes beautiful lace. By selling the toys and the lace, they are able to earn the extra money which they need.

If you should visit other Swiss mountain homes in winter, you would find some of the men making clocks and watches instead of toys, and some of the women doing embroidery instead of making lace. You would have a hard time finding any lazy, idle people, for each family must find a way to earn money during the winter. *See Figure 182.*

Winter play. Gretchen and Bernhard go to school in the village during the winter. They both have skis, and when they go skiing down the mountain side to school, it almost seems as if they were flying. All the Swiss boys and girls have wonderful times in the winter.



Figure 183. A ski-jumping contest in Switzerland. Ski-jumpers from many different countries take part in the contests held in Switzerland each winter.



Figure 184. One of the beautiful views in the Swiss Alps. On clear days the sky and the lake are deep blue, and the snow and ice on the mountain tops shine in the sunlight.

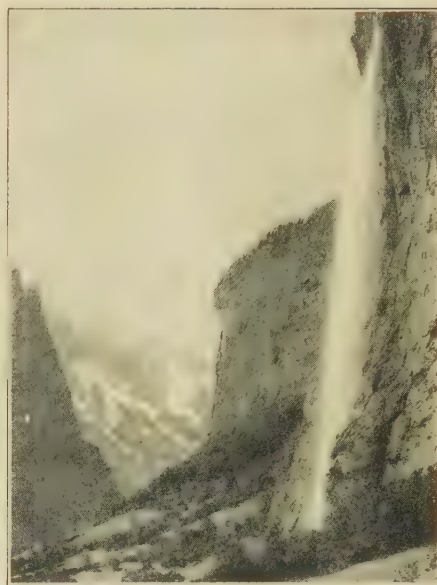


Figure 185. A waterfall in the Alps. In what other country have you seen waterfalls like this?

Besides skiing, they coast down the steep hills and skate on the frozen lakes and ponds. The big boys like Bernhard practice jumping on their skis, for every Swiss mountain boy wants to be a champion ski-jumper. See *Figure 183*.

Giving reasons. Give reasons to explain each of the statements below. This will help you to understand why the four groups of farming people whom you have visited in Europe have to live and work as they do.

1. Gretchen's father in Switzerland and Rolf's father in Norway cannot raise large crops of grain as André's father does in France.

2. They cannot keep such large herds of dairy cows as Dirk's father does in Holland.

3. They find it easier to keep goats than cows.

4. They cannot use farming machinery such as Dirk's father and André's father use.

5. Gretchen's father and Rolf's father must do other kinds of work besides farming.

6. Gretchen's father cannot do the same work in winter that Rolf's father does.

7. Dirk's father and André's father do not need to do other kinds of work than farming.

8. It is easier to get a living by farming on a plain than among the mountains.

THE PLAYGROUND OF EUROPE

A holiday land. Switzerland is called "the playground of Europe" because so many people from other countries spend their holidays here. In the summer, crowds of visitors come to enjoy the beauty of the snow-capped mountains, the sparkling waterfalls, and the quiet lakes. In the winter, when the whole country lies under a blanket of snow, many visitors come for the winter sports, — skating, skiing, and coasting. Figures 184 and 185 will help you to understand why people who love beautiful scenery choose to spend their holidays in Switzerland.

Caring for the visitors. The work of caring for the summer and winter visitors is a very important business in Switzerland. Thousands of Swiss people work either part of the time or all the time in the hotels where the visitors stay. Many of the farmers get their living chiefly by selling milk, cream, and butter to the hotel-keepers. Many young men work on the railroads that carry the visitors from place to place, or drive motor cars for those



Courtesy of French Line

Figure 186. Crossing a deep crack in the ice of a Swiss glacier. The guide has crossed first, and is helping the other three men to crawl over safely.

who wish to travel by automobile. Thus the visitors provide many different kinds of work for the Swiss people.

Mountain-climbing. Many of the visitors to Switzerland come especially to climb the mountains. It is not safe for strangers to cross the glaciers and climb the Alpine peaks without a guide. The cliffs are so steep that it is hard to keep one's footing, and the forests are so thick that it is easy to get lost. The glaciers are rough and slippery, and there are deep cracks in the ice that make the walking dangerous. Because of these dangers the mountain-climbers hire Alpine guides to show them the way and to guard them from accidents. These guides are Swiss men who know the Alps as well as you know the streets or fields round your home.

Gretchen's Uncle Hans is an Alpine guide. Every pleasant day during the summer season he takes parties of mountain-climbers up the steep, rocky slopes, across the glaciers, and sometimes to the very tops of the mountains. The climbers have sharp nails in their shoes to keep them from slipping, and they carry strong walking sticks to help them along.

Uncle Hans carries a hatchet and a long piece of strong rope. When he comes to a

place where the ice is too steep and smooth for climbing, he cuts steps in it with his hatchet. When the people in his party cross an especially dangerous place, he ties them together. Then, if one of them should fall into a crack in the ice or over a cliff, the others could pull him back. See Figure 186.

A Swiss program. You will enjoy preparing a Swiss program to entertain some of the other children in your school. Make a sand-table model showing Gretchen's farm on the mountain side, and the huts and cows on the May pasture and the high alp. Be ready to tell your guests about the model. Below are suggestions for talks to give as part of the program.

A day with a Swiss goat boy
The celebration in May
A summer on the alp
A winter on a Swiss farm
Climbing the Alps with a Swiss guide

A "missing name" test. During your trip through Europe you have visited four groups of people who get their living partly or wholly by farming. You have found, however, that they live and work differently because their homelands are different. Prove that you have clearly in mind their different ways of living by supplying the missing name, or names, in each sentence below. The list of missing names is at the bottom of the page.

1. The farmers of ----- and ----- carry on mixed farming.
2. The farmers of ----- and ----- carry on dairy farming.
3. Farmers in ----- are able to get their living by dairy farming alone.
4. Farmers in ----- are able to get their living by mixed farming alone.
5. Farmers in western ----- earn part of their living by fishing.
6. Farmers in ----- earn part of their living by doing indoor work in winter.

LIST OF MISSING NAMES

Norway	France
the Netherlands	Switzerland



Figure 187. The Rhône Glacier. The glacier is the great tongue of ice which is moving slowly down into the valley from the snow-covered mountains in the

distance. The ice at the lower end of the glacier melts in the warmer air of the valley, and forms the beginning of the Rhône River. Point to the glacier and the river.

SOUTHWARD ACROSS THE ALPS

The birthplace of rivers. Our visit to Gretchen is over, and now we are going to cross the Alps to the Mediterranean Sea. First we take a train which follows the valley of the Rhine *upstream* toward its source. When we reach the end of the railroad line, we continue our journey in a motor bus. The motor trip takes us across a high mountain ridge to a railroad station on the other side.

Turn back to the map of Switzerland on page 125, and trace our route from Gretchen's home up the valley of the Rhine and across the mountains to the place marked X. This is where the railroad station is located.

We are now in one of the highest parts of the Alps. A little American girl once called this part of Switzerland "the place where rivers are born." Can you tell from the map on page 125 why she gave it that name?

Within a few miles of the railroad station you can find the sources of at least six different rivers. Point to them on the map. One of the rivers is the Rhine, which you followed upstream from Gretchen's home. Another is the Rhône. Find the Rhône on the map on page 125, and point to its source. Figure 187 shows what you would see if you should visit the source of the Rhône. Study the picture and its legend.

The picture has shown you that the source of the Rhône River is the Rhône Glacier. There are many other glaciers in this part of Switzerland, and each one of them is the source of a stream. As the streams flow down the valleys, they join one another and form larger rivers. The six rivers the sources of which you have found on the map are formed in this way. Now you can understand why this part of Switzerland may be called the birthplace of rivers.



Figure 188. The St. Gotthard road, which leads over the St. Gotthard Pass in the Swiss Alps. The pass is more than a mile above the level of the sea. Explain why the road has so many twists and turns. Do you think it is used in winter? Explain your answer.

The Rhône River. Turn back to the travel map of Europe on page 74, and find the Rhône River. Then answer the questions in Group V on page 75.

The study of the map has shown you that the Rhône River flows westward from Switzerland into France, and then southward through a wide valley to the Mediterranean Sea. Which river has its mouth nearer the equator, the Rhône or the Rhine? Do you expect to find the countries bordering the Mediterranean Sea warmer than the countries bordering the North Sea, or cooler? Why?

Our route to the south. The Rhône valley, like the Rhine valley, is a great highway of transportation. If we wished, we could take a train which follows the Rhône from Switzerland to the Mediterranean Sea. Instead, we shall take one which runs southward across the Alps to the seaport of Genoa. The map has shown you that Genoa is in Italy.

A mountain pass. The map on page 125 shows that the mountains in Switzerland form long rows, or *ranges*. The mountain ranges in the southern part of Switzerland are so high that even the lower places among them are more than a mile above the level of the sea.



Courtesy of Swiss Federal Railroads

Figure 189. The entrance to the St. Gotthard Tunnel on the northern side of the mountains. The tunnel is over nine miles long. It goes straight through the mountain range and comes out on the southern side. Find the two entrances to the tunnel on Figure 166.

These lower places are called *passes*, because they are the places where it is easiest to pass over the mountains. You must remember, however, that even the passes are very high.

The slopes that lead to the passes are so steep that the roads and railroads have to wind back and forth to climb them. Figure 188 is a picture of the road that you would follow if you should choose to cross the mountains by automobile instead of by train. The place where this road crosses the summit of the mountain range is the St. Gotthard Pass. Study the picture and its legend.

A tunnel through the mountains. As you look at Figure 188, you can imagine how hard it must be to build roads across the steep mountain ranges. It is even harder to build railroads. Heavy trains cannot climb such steep slopes as automobiles can, and so the railroads have to make even more twists and turns than the automobile roads do.

Now that you know how steep the mountain slopes are, and that even the passes are very high, you will not be surprised to learn that the Swiss people have cut tunnels through the mountains for the railroads. The letter X on the map on page 125 marks the northern

entrance to the St. Gotthard Tunnel. Close by is the railroad station where we shall take the train for Italy. See *Figure 189*.

Almost as soon as the train leaves the station it enters the long tunnel. The locomotive is run by electricity, and so there is no smoke to make the trip unpleasant. When the train reaches the middle of the tunnel, we are far beneath the summit of the mountain range.

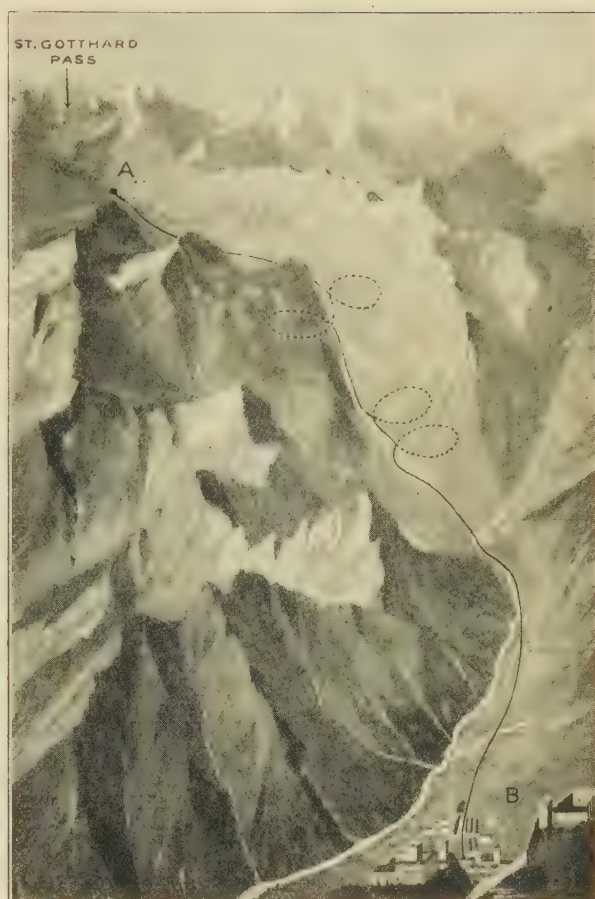
When we come out of the tunnel, we are on the southern side of the range. The underground trip has taken twenty minutes. The automobile trip over the pass would have taken two hours and a half.

Down the mountains. The town at the southern end of the tunnel is on the banks of one of the rivers the sources of which you found on the map of Switzerland. Our train follows the steep, narrow valley of this river down the southern slope of the Alps. During the trip we cross the river several times on high bridges, and we see the river racing along below.

There are places where the valley is too steep for the railroad. In these places the train passes through tunnels in the mountain sides. These tunnels are not straight like the St. Gotthard Tunnel. They are great loops inside the mountains. In each one the train makes a complete turn and comes out farther down the mountain side. *Figure 190* will help you to understand about these tunnels.

Using new words. During your visit to Switzerland you have learned the meanings of four new words. Prove that you can use them correctly by giving the right word to fill each blank in the following sentences:

1. The place where a river begins is called its
2. The top of a mountain is its
3. A row of mountains forms a mountain
4. The lower places in mountain ranges are called



Photograph by Wehrli

Figure 190. A drawing showing the railroad route from the southern end of the St. Gotthard Tunnel down the southern slope of the Alps. The railroad comes out of the tunnel at the town marked A. Trace the railroad from there to the town marked B, at the foot of the mountains. Point to four places where it runs through looplike tunnels in the mountain sides.

Answering strangers' questions. Imagine that you are a conductor on a Swiss railroad train. Here are some questions that strangers traveling in Switzerland may ask you. Try to answer them clearly.

1. Why do the railroads in Switzerland make so many twists and turns?
2. Why do they run through so many tunnels?
3. Why do the railroads not run over the high mountain passes, as the motor roads do?
4. What kind of power is used to run most of the Swiss railroad trains?
5. How is that kind of power made in Switzerland?



Figure 191. A view of one of the Italian lakes on a sunny morning. Try to think how the picture would look if it were colored. At the left some Italian women are doing their washing in a big covered wheelbarrow which they have pushed out into the water.

The Italian lakes. After we leave the town marked B on Figure 190, our train runs southward through what is called the "lake country." This is one of the most beautiful parts of Europe. The map on page 125 shows that the lakes lie in the valleys of the rivers, and that they are long and narrow. They are partly in Italy and partly in Switzerland, but they are called the Italian lakes.

From the windows of the train we catch glimpses of the lakes sparkling in the sunlight. Their deep waters reflect the blue of the sky, and their green, wooded shores are dotted with little towns of red-roofed houses. See Figure 191.

The plain of the Po. Just before we leave the lake country, we cross the boundary line between Switzerland and Italy. Passing through some hilly country, we soon reach the part of Italy which is known as the plain of the Po. This plain is the broad, level valley of the Po River. Find this river on the map of western Europe on page 74. In what direction does it flow? Into what sea does it flow? Of what larger body of water is that sea a part?

As our train nears the plain, you will find the hillsides covered with groves of trees with silvery green leaves. These are olive trees. Do you remember why olive trees do not grow farther north in Europe? You learned the reason on page 117. When you see the olive trees, you will know that we have reached a part of Europe which is never very cold, even in winter.

As we cross the plain of the Po, you will see fields of wheat and sugar beets which will remind you of the Paris Basin. Think what you have learned about the surface of the land in the Paris Basin, and then tell why the Italian peasants can raise large quantities of grain and other crops in

the plain of the Po. On this plain you will see one kind of grain that you did not see in the Paris Basin. This is rice. Like the olive trees, the rice is a sign that you are now in a warmer part of Europe, for in order to grow well this grain needs a much longer period of warm weather than does wheat or oats.

In the meadows near the river you will see a great many cows grazing on the green grass. Of what country do they remind you? You can easily guess that some of the people of the plain of the Po are dairy farmers, and that they make large quantities of cheese to sell.

Signs of a warm land. In crossing the plain of the Po, you have seen two different things which have told you that the lands bordering the Mediterranean Sea are warmer than the other parts of Europe. What are they? As our train nears Genoa, you will find groves of orange trees on the hillsides which face the sea. Orange trees, like olive trees, are signs of a warm land, for they cannot grow where the weather is cold. Along the Mediterranean shore you will see palm trees. You already know that palms grow only where the weather is warm.



Photograph by Ewing Galloway, N.Y.

Figure 192. The harbor of Genoa. The large ships are ocean liners and freighters which have come from all parts of the world. Find some freight cars in the pic-

ture. They bring goods from many parts of Europe to be shipped from Genoa, and they carry back goods which the ships have brought from distant parts of the world.

On your first journeys you learned that the lands nearer the equator receive more heat from the sun than the lands farther away from it do. Explain why the part of Europe which borders the Mediterranean Sea is warmer than the rest of the continent.

A Mediterranean seaport. Our railroad journey will end at Genoa. This is one of the two greatest ports on the Mediterranean Sea. Like Bergen in Norway, it has a fine natural harbor. Like Rotterdam in the Netherlands, it carries on a large shipping business, for it is a gateway city not only for Italy, but also for Switzerland. Many of the things that come to its wharves in ships are loaded on freight trains and sent northward across the Alps to be used by the Swiss people.

The map of Europe on pages 160-161 will help you to answer the following questions:

Why must the Swiss people make use of the seaports of other countries in order to obtain goods from lands across the sea? Why do they make more use of Genoa than of Havre or Rotterdam?

As you might expect, Genoa is a manufacturing city as well as a seaport. That is because, like Paris, it has excellent means of transportation. Ocean ships bring raw materials to its factories from all parts of the world, and carry its manufactured goods to many distant lands. Figure 192 shows some of the things that we shall see at Genoa. Study the picture and its legend.

Homeward bound. At Genoa we shall find an ocean liner which will carry us westward through the Strait of Gibraltar and across the Atlantic Ocean to America. Our travels in Europe are over, and we are homeward bound.

A REVIEW OF YOUR EUROPEAN TRIP

Preparing to tell about the trip. When you get home from your European trip, your friends will want to hear all about what you have seen and done. While you are crossing the ocean, you will have time to think over the things you want to tell them. The exercises on this page will help you to be ready to tell about your trip.

What countries did you visit? This will be the first question that people will ask you. Name all the countries which you have visited in Europe, and tell in what part of Europe each one is located. Be ready to point out the countries on the map on pages 160-161.

What kind of countries are they? When you answer this question, remember that you visited only one part of Norway, the Netherlands, France, and Switzerland. When you make your next trip to Europe, you will find that certain other parts of these countries are different from the parts you have seen. For example, part of France is in the Alps, and the French people who make their homes there live much as the Swiss mountaineers do. Do you see, then, why it would be wrong to make your friends think that all the French people live as André does in the Paris Basin?

Here are some questions which will help you to tell about the parts of the four countries which you have visited.

1. What differences did you see between the land in western Norway and the land in Holland?

2. What kind of land did you see in the Paris Basin? How was it different from the land in Holland?

3. What kind of land did you see in Switzerland? Of which of the other three countries did it remind you?

4. In what two countries did you see waterfalls? Why are there no waterfalls in Holland?

5. In what country were you able to sail far inland on a long, deep fiord?

6. Why did the boat that you took from

Norway not carry you into the Netherlands by way of the Zuider Zee?

7. What country that you visited has a safe coast line for ships, and many natural harbors?

8. What country that you visited has a dangerous coast line and no natural harbors?

9. What have the people of that country done to make good harbors?

10. What country that you visited has no coast line?

11. In what countries did you find thick forests?

12. Why are there not many forests in the Netherlands and the Paris Basin?

How do the people live? In order to be ready to answer this question, you will need to think over the different kinds of farming that you have seen in Europe. You will find it helpful to make out the lists suggested below. Perhaps your teacher will divide the class into three groups, and let the members of each group make out one list together.

List 1. Crops on the farms of my friends in Europe.

Make this list in three parts: (1) crops which the people raise for food; (2) crops which they raise for fodder; (3) crops which they raise to sell. Then try to decide which of the three groups of crops is most important. This will be an interesting topic for a class discussion.

List 2. Live stock on the farms of my friends in Europe.

Make a list of the different kinds of live stock on the farms that you have visited. After you have finished the list, explain the uses of all the different kinds of farm animals. Tell which kind of live stock you think is most important on each of the farms, and why you think so.

List 3. Materials used in building houses.

List the different kinds of building materials used by the groups of European people whom you have visited. Tell where the people get each kind, and why it is easier for them to get that kind than any other.

A WORLD VIEW

TWO NEW MAPS

Northern and Southern hemispheres. On your first imaginary journey you crossed the equator, and you learned that it divides the earth into the Northern Hemisphere and the Southern Hemisphere. Do you remember what the equator is? If you are not sure, turn back to page 19 and review what you learned there. Now you are going to learn of another way in which the earth is divided into hemispheres.

Old ideas about the earth. There was a time long ago when the people of Europe knew nothing about North America and South America. They knew something about Asia and Africa because those continents were near Europe, but they never even guessed that there were two large continents on the other side of the Atlantic Ocean.

In those days most people believed that the earth was flat. They thought that the waters surrounding Eurasia and Africa stretched to the edge of the earth, and that if a ship should sail too far from the land it would fall over the edge and be lost.

How trade led to the discovery of America. For many years the people of Europe had been trading with the people of the south-eastern part of Asia. At first they sent ships to the eastern end of the Mediterranean Sea. There the ships met camel caravans which had come over the land from the East, and which were loaded with cinnamon, pepper, and other spices, perfumes, silks, and precious stones. The owners of the ships bought these things from the caravan men, carried them back to Europe, and sold them there.

Later the European traders sent ships all the way round the southern end of Africa to the lands of eastern Asia. This was a long,

dangerous voyage. The ships were often gone several years, and many of them were wrecked in terrible storms at sea.

As time went on, the people of Europe wanted more and more things from the East, and they began to wish for a shorter and safer route to eastern Asia. There were some who believed that the earth was round instead of flat, and that if a ship should sail from Europe *westward* across the Atlantic Ocean, it would finally reach the *eastern* shores of Asia. But most people laughed at this idea, and thought that those who believed in it were crazy.

Perhaps you know who the brave sailor was who decided to try to reach the East by sailing west. His name was Christopher Columbus. In trying to reach eastern Asia by sailing westward across the Atlantic Ocean, he discovered America.

The Old World and the New World. After the discovery of North America and South America, the people of Europe began to speak of these new-found continents as the *New World*. Eurasia and Africa, which they had known so much longer, they called the *Old World*.

Eastern and Western hemispheres. Later the people of Europe drew maps which divided the earth into halves in such a way that the New World was in one half and the Old World in the other. Because the New World was west of Europe, the map-makers called the half of the earth in which North America and South America are located the *Western Hemisphere*. The other half, in which the lands of the Old World are located, they called the *Eastern Hemisphere*. You will find maps of the Western and Eastern hemispheres on the next pages. Work out the map studies under them.



Figure 193. A map of the Western Hemisphere.

Map study. 1. Name the two continents of the Western Hemisphere. 2. Name the four continents of the Eastern Hemisphere. 3. In which hemisphere do you live? 4. What boy whom you have visited lives in the same hemisphere as you do? 5. What children whom you have visited live in the Eastern Hemisphere? 6. Trace the equator on both maps. 7. Name a continent in the Western Hemisphere and an-

other in the Eastern Hemisphere through which the equator passes. 8. Trace the arctic circle on both maps. 9. Name a continent in the Western Hemisphere and two continents in the Eastern Hemisphere through which it passes. 10. Trace the antarctic circle on both maps. 11. What continent lies almost wholly south of it? 12. Which of these maps might be called a map of the New World? of the Old World?



Figure 194. A map of the Eastern Hemisphere.

The tropics. When you visited the Far North, you learned that the arctic and antarctic circles are twin lines because they are the same distance from the equator. On the hemisphere maps find another pair of lines, called *tropics*. One is the *tropic of Cancer* and the other is the *tropic of Capricorn*. They too are twins, because one is the same distance north of the equator as the other is south of the equator.

Map study. 1. Trace the tropic of Cancer on both maps. 2. Name one continent in the Western Hemisphere and two in the Eastern Hemisphere through which it passes. 3. Trace the tropic of Capricorn on both maps. 4. Name one continent in the Western Hemisphere and two in the Eastern Hemisphere through which it passes. 5. On which side of the equator is the tropic of Cancer? the tropic of Capricorn?



Courtesy of H. L. Shantz

Figure 195. A view of the grasslands in the warm belt of Africa. Lands of this kind are found where the rainfall is not so heavy as it is in the tropical forest.

THE WARM BELT OF THE EARTH

The belt between the tropics. Like the equator and the arctic and antarctic circles, the tropics are lines drawn on maps and globes, and not real lines on the earth itself. If you have a globe in your schoolroom, trace both tropics on it. This will show you that they run east and west round the globe, forming circles like the other three lines.

The tropics are useful lines because they mark the northern and southern margins of the *warm belt* of the earth. This belt forms a broad zone, or band, round the middle of the earth on both sides of the equator. It is often called the *torrid zone*, which means the "hot zone." Do you remember why the lands near the equator are so warm? You learned the reason on page 30.

Map study. Use the hemisphere maps in answering these questions.

1. Which continent of the Western Hemisphere has more land in the warm belt?
2. What continent of the Eastern Hemisphere has the most land in the warm belt?
3. Name two other continents of the Eastern Hemisphere which are partly in the warm belt.
4. What continent is entirely north of the warm belt?
5. What part of our own continent is in the warm belt?



Photograph from Wide World Photos

Figure 196. A man of the brown race spearing fish. He lives on a tropical island in the Pacific Ocean, and he dresses this way all the year round. Explain why.

Tropical lands. We often call the lands in the warm belt of the earth the *tropical lands*, because they are between the tropic of Cancer and the tropic of Capricorn. What boy whom you have visited lives in a *tropical forest*? Describe the weather in his country.

You must not think that all tropical lands are like the part of Africa that you saw when you visited Bombo. If you had traveled some distance farther north or south from the equator in Africa, you would have seen the kind of country shown in Figure 195. In these parts of Africa the land is covered with a thick growth of grass. There are some trees, as the picture shows, but they are much fewer and smaller than the trees in central Africa.

If you had traveled still farther north or south, until you were near the margins of the warm belt, you would have seen the kind of country shown in Figure 17, on page 12. What do we call a land of that kind? Why does it have no trees?

The reason Bombo's land is so different from the parts of the warm belt of Africa shown in Figures 17 and 195 is that it has so much more rain than those parts do. As you already know, it is because the central part of Africa is so rainy that the forests are so thick there.

Islands in the warm belt. Turn to the hemisphere maps again. Find a group of islands between North America and South America. These islands are called the West Indies. Find another group of islands between Australia and Asia. These are the East Indies. Explain why we call the West Indies and the East Indies *tropical islands*. Notice how many small tropical islands there are in the Pacific Ocean.

The tropical islands are warm and rainy, and so they have thick forests. In many places, however, the trees have been cut down, and the land is divided into big farms called plantations. Among them are sugar plantations, rubber plantations, tobacco plantations, and tea plantations. They are owned and run by white men, and most of the plantation products are sent to Europe or the United States.

People of the brown race. If you should visit the East Indies, you would see many people whose skin is brown and whose hair is straight and black. They are people of the *brown race*. You would find many of them on the Pacific Islands also. Many of the brown people work for the white men on the plantations. Many others get their living somewhat as Bombo's people do, by doing a little farming and by fishing. See Figure 196.

A tropical forest in South America. When you were studying the hemisphere maps, you saw that a large part of South America is in the warm belt. Turn to the maps again, and trace the equator westward from Africa across the Atlantic Ocean to South America. There you will find the mouth of another great river. This is the Amazon River.

The Amazon is a great highway of travel into South America just as the Congo is into



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Figure 197. Indians of the Amazon forest. What do you see in the picture that reminds you of the Congo forest? How do you think the people in the picture get their food? How do you suppose they travel from one village to another?

Africa. If you should sail upstream from its mouth, you would find yourself in another great tropical forest, which would remind you of the one bordering the Congo River. You would pass towns on the banks of the stream as you did going up the Congo. You would also pass little grass-roofed huts which would make you think of the houses in which Bombo's people live. The people of the Amazon forest live in much the same kind of land as the people of the Congo forest do, and so they live in much the same way. See Figure 197.

People of the red race. The people in Figure 197 are not negroes like Bombo's people. They are Indians, and they belong to the *red race*. Their skin is reddish brown, and their hair is straight and black. North America and South America are the homelands of the red race. Before the discovery of America the Indians and Eskimos were the only people in the New World. There are many Indians living in our own country and Canada today, but there are many more in the lands farther south in the New World.



Courtesy of W. Spencer Hutchinson

Figure 198. Pedro and his mother. Pedro's mother is spinning wool into thread to be used to make cloth.



Figure 199. Pedro's family and their house. The house is made of pieces of sod, — that is, blocks of earth filled with the roots of grass. What does this suggest about trees in Pedro's country?

Pedro and his home. Figure 198 is a picture of Pedro and his mother. Pedro lives in South America, but not in the part that you would see in sailing up the Amazon River. Figure 199 shows the other members of Pedro's family and the house in which they live. Judging from the way Pedro and his family are dressed, do you think their country is warm or cool?

No doubt you will be surprised to learn that Pedro lives in the warm belt of South America. His people are Indians like the people in Figure 197, but their life is very different. The Amazon Indians live in a *low part* of the warm belt, where the land is only a little higher than the surface of the sea. Pedro's people live in a very *high part* of the warm belt, where the mountains rise two and three miles above the sea.

Turn to the map of the Western Hemisphere on page 144 and find the mountains which extend from north to south along the western side of South America. These mountains are called the Andes. Pedro's home is in the Andes, about halfway between the equator and the tropic of Capricorn.

Why there are cold lands in the warm belt. When you visited Switzerland, you learned that the mountain peaks in the Alps are covered with snow even in summer because they rise so high into the cold air above the earth. The Andes are higher than the Alps. They are so high that even in the warm belt their upper slopes are too cold for trees to grow, and the highest peaks are covered with snow the year round.

Now you can see that very high lands are cold lands, even in the warm belt of the earth. Turn to the map on page 145, and point to some high mountains close to the equator in Africa. The mountain peaks there are snow-capped like the peaks of the Andes.

How Pedro's people live. The part of the Andes where Pedro lives is a high plain surrounded by higher mountains. A high plain is called a *plateau*. The plateau where Pedro lives is not only cold but it is also dry, for it gets very little rain. Because it is both cold and dry no trees can grow there. Fortunately there is rain enough for the growth of grass, and the grass furnishes pasturage for sheep and other animals that can stand the cold.



Courtesy of W. Spencer Hutchinson

Figure 200. Llamas in the Andes Mountains of South America. These animals are used for carrying goods up and down the mountains in places where there are no railroads. They carry loads of about a hundred pounds apiece, traveling about as fast as a man walks.

Pedro's father has a few sheep and goats, but the most interesting animals that he keeps are llamas. You have not seen llamas on any of your other journeys, for they are found only in South America. They are sometimes called "camels of the Andes" because they can live on so little grass and can go so long without water. Figure 200 shows how the llamas look, and the legend tells the principal way in which they are used.

Pedro's mother clips the wool from the sheep and llamas and the hair from the goats, and spins them into thread by hand. She dyes the threads with bright colors and weaves them into cloth for small blankets and other clothing for her family. In Figure 198 Pedro is wearing a blanket in place of a coat.

You can easily see that this high plateau is not a good place for farming, for it is too cool and dry for most kinds of grain and vegetables to grow. The only crops that Pedro's father can raise are barley and potatoes. These, with a little meat and goat's milk, are almost the only kinds of food that Pedro ever has to eat.



Figure 201. The buildings at a mine in the mountains near Pedro's home. The mine itself, where the ores are taken from the earth, is deep underground. In the buildings the ores are crushed and sorted before being sent down the mountains to be shipped away.

It is very hard for Pedro's people to get their living in this cold, dry land. They are very poor, but they would be even poorer if they had nothing except what they can get by farming and keeping animals. Fortunately there is a way in which they can earn money.

In the neighboring mountains there are mines where valuable kinds of rocks are taken from the earth. These rocks are called *ores*, and they contain copper, silver, and other metals. Figure 201 is a picture of the buildings at one of the mines. Study the picture and its legend.

The mines are owned and run by white men from Europe and North America. Many of the Indians work for the white men as miners, digging the ores from the earth deep underground. Others use their llamas to work for the white men. They carry the ores down the mountains to railroad stations on the lower lands, and bring back tools and other things that are needed at the mines. This is the kind of work that Pedro's father does. With the money that he earns he buys clothing and other things for his family.



Courtesy of Canadian Geological Survey

Figure 202. Reindeer grazing on the tundra in the summer. How should you describe the surface of the land here? Why are there no trees on the tundra?

Finding reminders. In Pedro's land you have seen things that should remind you of countries that you have visited in other parts of the world. Some of these things are listed below. Name the country, or countries, of which each one reminds you.

- Snow-covered mountain peaks
- Land too dry for trees
- Land too cold for trees
- Dry pasture lands
- Barley and potatoes
- Sheep and goats
- Women spinning and weaving by hand
- Animals used for carrying goods

Surprising Bombo. Bombo would be very much surprised if you should tell him about all the different kinds of lands which you have seen in the warm belt of the earth. Here are some questions that he might ask you about them. Try to answer them clearly for him.

1. Why do you call my country a tropical land?
2. Why aren't all the parts of the warm belt like the part where I live?
3. Why is the warm land where Hirfa lives a desert?
4. Why does Pedro wear so many clothes when he lives in the warm belt?
5. Why is his country so cold?

THE COLD CAPS OF THE EARTH

The Far North and the Far South. When you visited Nandla, you learned that the part of the earth north of the arctic circle is cold most of the year. You also learned that there is another cold part of the earth south of the antarctic circle. Do you remember why the Far North and the Far South are so cold? If you are not sure, turn back to page 40 and review what you learned there.

These two parts of the earth which are farthest from the equator are the *cold caps*. The northern cold cap is the part of the earth north of the arctic circle, surrounding the north pole. The southern cold cap is the part of the earth south of the antarctic circle, surrounding the south pole. The cold caps are often called the *frigid zones*, which means the cold zones. If you have a globe in your schoolroom, find the cold caps on it, and explain why it is better to call them caps rather than belts, or zones. If you have no globe, ask your teacher to explain the reason.

The southern cold cap. Turn back to the hemisphere maps on pages 144-145 and find the southern cold cap. You will see that nearly all the continent of Antarctica lies within it. Of all the lands of the earth, Antarctica is farthest from the equator. Besides this, it is high and mountainous. Remember what you learned about high lands in the warm belt, and then think how very cold this high land so far from the equator must be.

Now you can understand why Antarctica is buried beneath a thick cover of snow and ice that never melts, and why there are no people living there. What large island in the Far North is much like Antarctica?

In the ocean surrounding Antarctica there are icebergs and pack-ice at all times of year. Think what you have learned about the icebergs in the Far North, and then tell where you think those of the Far South come from.



Figure 203. Reindeer-herders of Lapland. Lapland is the name given to the northern part of Norway and Sweden, where a group of people called the Lapps

make their home. Most of the Lapps are nomads. From what you see in the picture, can you suggest a reason why they do not live in one place all the time?

The northern cold cap. Turn back to the hemisphere maps again and find the northern cold cap. You will see that it is different from the southern cold cap, for there is much more water than land within it. Study the surface of the lands which border the Arctic Ocean. You will find some mountains there, but you will see that much of the land north of the arctic circle is low and level.

The tundra. You have learned that the very high lands in the warm belt are cold, but that the lower lands are warm the year round. In most parts of the Far North even the lowest lands are cold most of the year — too cold for trees to grow. That is because they are so far from the equator and get so little heat from the sun. The cold, treeless plains of the Far North are called the *tundra*.

You must not think, though, that the tundra is cold all the time. When summer comes,

the snow melts away and the weather grows much warmer. Grass and flowering plants spring up quickly, growing fast in the long hours of sunlight. For some weeks the tundra is bright with buttercups, poppies, and other flowers. But the summer is short, and winter soon comes again. The grass and flowers wither, the ground freezes hard, and for many months the tundra is covered with snow. Figure 202 shows how the tundra looks in summer. Study the picture and its legend.

Reindeer-herders of the Far North. Before you read about the reindeer-herders, study Figure 203 and its legend. Then, as you read, try to think of ways in which the reindeer-herders are like the Eskimos of Baffin Island, and of ways in which they are like the Bedouin Arabs.

On your visit to Baffin Island you learned how the people live in one part of the Far



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Figure 204. A Lapp mother and her children in front of the tent which is their summer house. In the distance at the right you can see their winter house. It is built of rocks and sod. What do you see in the picture that suggests that Lapland is cool in summer?



Figure 205. A Lapp boy on his skis. What other boy whom you have visited wears fur clothes as this boy does in winter?

North. The Lapps live in a quite different way. Turn to the map on pages 160-161 and find the part of Norway and Sweden north of the arctic circle. You will see that this part of the Far North, where the Lapps live, is a mountainous land.

You may have guessed from Figure 203 that the Lapps have large herds of tame reindeer, and that they wander from place to place in search of food for the animals. In this way are they more like Nandla's people, or Hirfa's people?

The reindeer eat a kind of moss that grows in this cold northern land. In summer they wander up into the mountains to graze, and the Lapps follow them as they move from one place to another. In winter the reindeer come down into the valleys, where they get the moss by scraping away the snow with their hoofs.

The Lapps make as much use of the reindeer as the Arabs make of the camel. Reindeer meat is their principal food. They drink

reindeer milk and eat butter and cheese that are made from it. They use the skins for clothing, blankets, and tent coverings, and make tools out of the horns and bones.

When the Lapps move in summer, they pack their belongings on the backs of reindeer. When they travel in the winter, they use sledges which the reindeer draw over the snow. The reindeer have broad hoofs, which keep them from sinking into the soft snow just as the camels' hoofs keep them from sinking into the sand.

The Lapps live in different kinds of houses in winter and summer. Figure 204 will show you what they are. Study the picture and tell how their summer houses are suited to the way they live while the reindeer are grazing among the mountains.

Farther east, in the tundra that extends across northern Asia, are other groups of people who are reindeer-herders, and who live in much the same way as the Lapps do.

Some comparisons to make. In learning about the Lapps, you have found that in some ways they are like the Eskimos of Baffin Island, and that in other ways they are like the Bedouin Arabs. In the following sentences, each blank space is to be filled with either the word *Eskimos* or the word *Arabs*. Read the sentences carefully and give the right word to fill each blank space.

1. The Lapps live in the Far North as the ----- do.
2. They get their living by herding animals as the ----- do.
3. They eat meat as the ----- do, and have milk, butter, and cheese as the ----- do.
4. They live in different kinds of houses in summer and winter as the ----- do.
5. They travel with sledges in winter as the ----- do.
6. They use reindeer to carry their belongings in summer as the ----- use camels.

Eskimos who are reindeer-herders. Turn to the map on page 144 and find the large peninsula which forms the northwestern part of North America. Point to the part of it that lies north of the arctic circle. This peninsula is called Alaska, and it belongs to our country. There are many white people in Alaska, but there are also many Eskimos.

The Alaskan Eskimos used to get their living by hunting and fishing, just as the Eskimos of Baffin Island do today. Less than fifty years ago the United States government sent to the Old World for a herd of reindeer for them. The men who brought the reindeer taught the Eskimos how to care for the animals. Today there are thousands of reindeer in Alaska, and many of the Eskimos are reindeer-herders, getting their living much as the Lapps do.

This change has made life much easier and safer for the Eskimos of Alaska than it is for the Eskimos in other parts of North America. The Eskimos who live outside Alaska have no herds of reindeer, and so they still get their living by hunting and fishing.

THE TEMPERATE BELTS

The temperate belts. You have learned about the warm belt of the earth, or the torrid zone, and about the cold caps, or the frigid zones. Between the warm belt and the cold caps are two other belts, one of which is in the Northern Hemisphere, and the other in the Southern Hemisphere. They are called the *temperate belts*. You and all the children whom you visited in Europe live in one of them.

The word *temperate* means "mild." The temperate belts are milder than the other parts of the earth; that is, they are warmer than the cold caps and cooler than the warm belt.

These two belts form zones, or bands, round the earth like the warm belt. The temperate belt of the Northern Hemisphere is called the *north temperate belt*, or the *north temperate zone*. Study your globe, or the hemisphere maps on pages 144-145, and name the lines that mark its margins. The temperate belt of the Southern Hemisphere is called the *south temperate belt*, or the *south temperate zone*. Name the lines that mark its margins. In which of the two belts do you live?

Map study. If you have a globe, use it to answer the following questions. If not, use the hemisphere maps.

1. Which of the two continents of the Western Hemisphere is mostly in the north temperate belt? 2. What two continents of the Eastern Hemisphere are mostly in this belt? 3. What continent of the Western Hemisphere is partly in the south temperate belt? 4. In what belt of the earth is the rest of that continent?

5. What continent of the Eastern Hemisphere is partly in the north temperate belt, partly in the warm belt, and partly in the south temperate belt? 6. What continent of the Eastern Hemisphere is about half in the warm belt and half in the south temperate belt?

Temperate lands. We speak of the lands in the temperate belts as the *temperate lands*. In many ways they are the best parts of the earth for people to live in, because they are neither too hot nor too cold.

In lands like Belgian Congo, where the weather is warm all the time, the people do not feel like working very hard. They do not have to work hard either, and so they are apt to become rather lazy and never do anything very worth while. In the Far North, where the weather is cold most of the year, it is so hard to get a living that the people have to work nearly all the time. They have very little chance to rest or play.

In the temperate belts the year is divided into four seasons of about equal length: spring, summer, autumn, and winter. On your European trip you learned that the people of temperate lands live and work in different ways at different seasons, and that they spend the warmer months preparing for the winter. They have to work harder to get a living than most of the people in the warm belt do, and so they are less likely to become lazy. But they do not have to work so much just to get food and keep warm as the people of the Far North do. They have spare time to do other kinds of work and to rest and enjoy themselves. Do you not think we are fortunate to live in a temperate land?

Your map study has taught you that North America, Europe, and Asia are mostly temperate lands, while large parts of South America and Africa are tropical lands. After what you have just learned you will not be surprised to know that the people of the three northern continents have done more worthwhile things than the people of other continents have. They have invented all kinds of useful and wonderful things such as locomotives, steamships, airplanes, telephones, moving pictures, and radio. They have written most of the world's best books and music,

and painted most of the finest pictures. The people of our own country have had a large share in all this work.

Differences in the temperate lands. There are great differences in the temperate lands just as there are in the tropical lands. First of all, there are differences in the surface. Some temperate lands are high and mountainous, others are low plains, and still others are plateaus.

There are great differences in weather too. The temperate lands that are nearest the cold caps are much cooler than those nearest the warm belt. Some temperate lands are very rainy and have thick forests. Others have much less rain and are grasslands. Still others are deserts.

All these differences in surface and weather in the temperate lands make great differences in the way the people get their living. This year you have learned how some of the people in the temperate belt of Europe live. Next year you will study the geography of our own continent of North America, and you will learn much more about the temperate lands.

Something to do. Draw a large circle to represent either the Western Hemisphere or the Eastern Hemisphere. Then draw lines to show the equator, the arctic and the antarctic circles, and the tropics of Cancer and Capricorn. Write the correct name on each of these lines. Then write the names of the five zones in the correct places. In parentheses under each one write the other name that we give to that zone.

Three important questions. After you have finished the work suggested above, answer the following questions:

1. How can you tell from a map or a globe what lands are in the warm belt, or torrid zone?
2. How can you tell what lands are in the north temperate zone? the south temperate zone?
3. How can you tell what lands are in the cold caps, or frigid zones?

LATITUDE AND LONGITUDE

Helpful lines. If you have answered the questions on page 154 correctly, you know what helpful lines the equator, the tropics, and the arctic and antarctic circles are. If you have a globe in your schoolroom, you will see that there are many other lines that run east and west around it. All the east-west lines are *lines of latitude*. They tell us how far places on the earth are from the equator, and what places are directly east and west of each other.

We measure long distances on the earth by miles and by *degrees*. On the map on page 144 find the line of latitude which passes through the southern part of the United States. Notice that it is marked 30° . The figure means that the line is 30 degrees from the equator.

The lines of latitude are numbered north and south from the equator. Those which are north of the equator are lines of *north latitude*, and those south of the equator are lines of *south latitude*.

On the hemisphere maps you will find other lines which run north and south instead of east and west. These lines also form circles round the earth, and they are called *lines of longitude*. Your globe will show you that they *all pass through the north pole and the south pole*. Because of this, they help us to tell what places on the earth are directly north and south of each other.

Like the lines of latitude, the lines of longitude are marked by figures which stand for degrees. On the globe, or the map of Europe on pages 160-161, find the city of London in the British Isles. From a line of longitude which passes through a place close to that great city all the other lines of longitude are numbered east and west. All the lines of longitude shown on the map of the Eastern Hemisphere on page 145 are lines of

east longitude. All those shown on the map of the Western Hemisphere on page 144 are lines of *west longitude*.

Planning airplane trips. Imagine that you have an airplane and can fly wherever you wish. Plan to take the airplane trips suggested below.

Trip I. On this trip you are going to fly to the homelands of some of the children whom you have visited. On each "hop" of the trip you are to follow a certain line of latitude or longitude shown on the maps on pages 144-145. Name the line as you fly along it. The route is as follows:

1. From the eastern part of the United States directly north to Baffin Island, where Nandla lives. On what line of longitude?

2. From Baffin Island directly east to Norway, where Rolf lives. On what line of latitude? Over what ocean?

3. From Norway directly south to the northern part of Africa. On what line of longitude? Over what continent and what sea?

4. From northern Africa directly east to Arabia, where Hirfa lives. On what line of latitude?

5. From Arabia directly south to the equator. On what line of longitude? Over what sea?

6. From the equator directly west to the east coast of South America. Over whose home in Africa? Over what ocean?

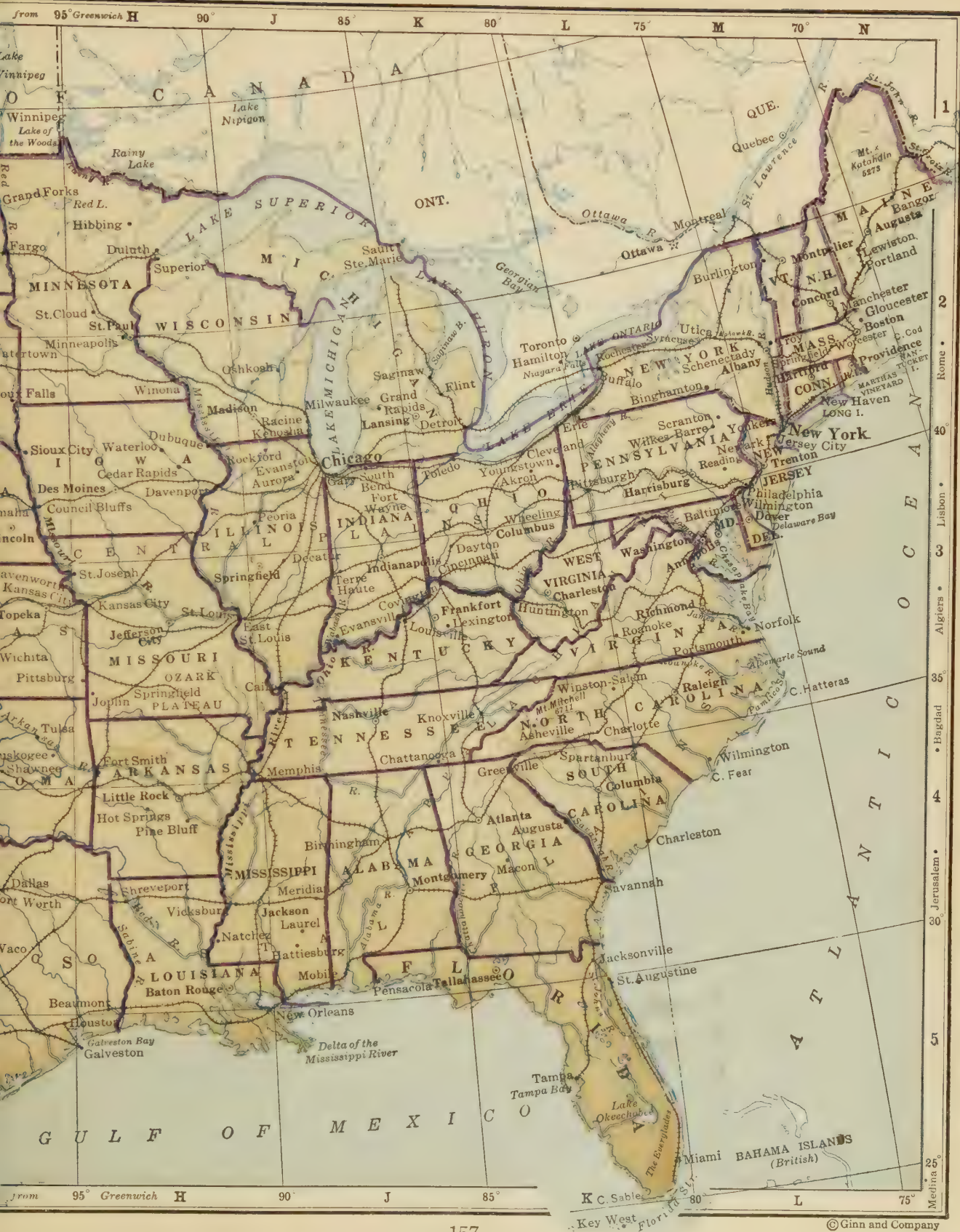
7. From the east coast of South America directly west to the west coast. Over what great tropical forest?

8. From the west coast of South America directly north to the United States. On what line of longitude?

Trip II. This will be an east-west trip round the world. On the globe find the line of latitude nearest your home. Fly round the world, following that line. Name the continents and oceans over which you will fly.

Trip III. This will be a north-south trip round the world. On the globe find the line of longitude nearest your home. Fly round the world, following that line. Name the continents and oceans over which you will fly.



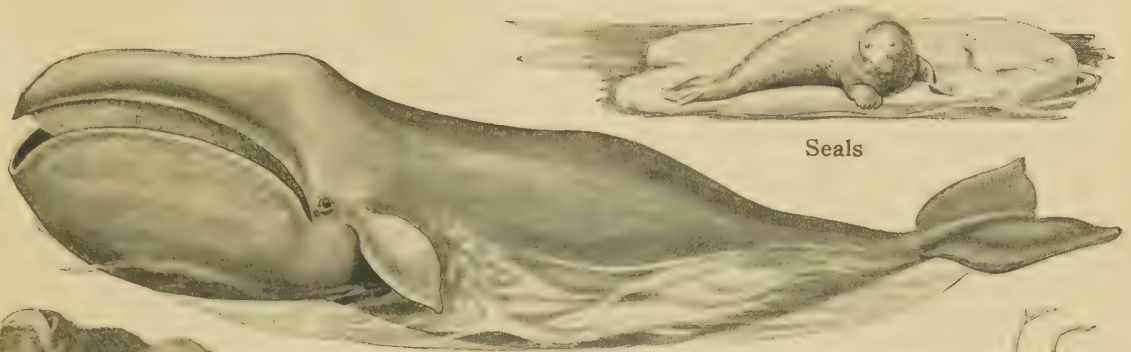




Map showing Gulf Stream and Labrador Current

AREA OF CONTINENTS		AREA OF OCEANS	
	SQUARE MILES		SQUARE MILES
North America	8,000,000	Pacific	64,000,000
South America	7,000,000	Atlantic	31,500,000
Europe	3,900,000	Indian	28,350,000
Asia	17,000,000	Arctic	5,540,000
Africa	11,500,000	Antarctic	3,600,000
Australia	2,900,000		
Antarctica	5,000,000		

SOME WILD ANIMALS OF THE FAR NORTH



Seals

Whale



Musk ox



Narwhal



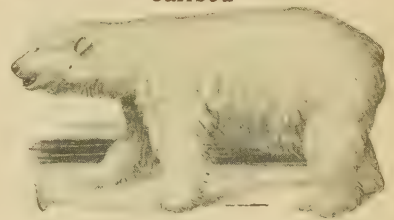
Caribou



Walrus



Foxes

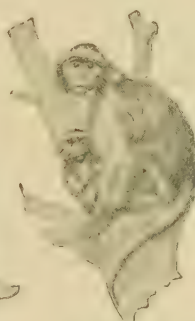


Polar bear

SOME WILD ANIMALS OF THE CONGO FOREST



Elephant



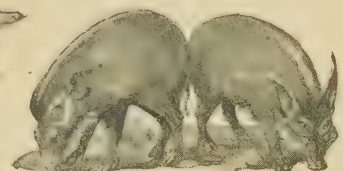
Monkeys



Hippopotamus



Crocodile



Wild pigs





A LIST OF BOOKS FOR OUTSIDE READING

Books marked with an asterisk are especially well suited to be read aloud to the class by the teacher

HOMES IN FAR-AWAY LANDS (GENERAL)

- AITCHISON, ALISON E., and UTTLEY, MARGUERITE. Across Seven Seas to Seven Continents. The Bobbs-Merrill Company.
- ALLEN, NELLIE B. How and Where we Live. Ginn and Company.
- CARPENTER, FRANK G. Around the World with the Children. American Book Company.
- FAIRGRIEVE, JAMES, and YOUNG, ERNEST. Homes Far Away. D. Appleton and Company.
- MIRICK, GEORGE A., and HOLMES, BURTON. Home Life around the World. Houghton Mifflin Company.
- *STUART, D. M. Young Folks' Book of Other Lands. Little, Brown & Company.
- THOMPSON, RUTH. Our Neighbors Near and Far. Harr Wagner Publishing Company.
- UPJOHN, ANNA MILO. Friends in Strange Garments. Houghton Mifflin Company.

HOMES AND PEOPLE IN THE WARM LANDS

- ALLEN, ALICE E. Children of the Palm Lands. Educational Publishing Company.
- *BABSON, ROGER W. A Central American Journey. World Book Company.
- BRADLEY, MARY HASTINGS. Alice in Jungleland (Africa). D. Appleton and Company.
- *DU CHAILLU, PAUL B. In African Forest and Jungle. Charles Scribner's Sons.
- FLEMING, W. M. The Hunted Piccaninnies (Australian Bush). E. P. Dutton and Company.
- McDONALD, ETTA B., and DALRYMPLE, JULIA. Hassan in Egypt. Little, Brown & Company.
- PERKINS, LUCY FITCH. The Filipino Twins. Houghton Mifflin Company.
- *SCOTT, EVELYN and C. KAY. In the Endless Sands (Sahara Desert). Henry Holt & Company.
- *TEE-VAN, HELEN D. Red Howling Monkey (Indian life in British Guiana). The Macmillan Company.

HOMES AND PEOPLE IN THE FAR NORTH

- *DU CHAILLU, PAUL B. Land of the Long Night. Charles Scribner's Sons.
- SCHWATKA, FREDERICK. The Children of the Cold. Educational Publishing Company.
- *STEFANSSON, V., and SCHWARTZ, J. A. Northward Ho! The Macmillan Company.

HOMES AND PEOPLE IN EUROPE

- AANRUD, HANS. Lisbeth Longfrock (Norway). Ginn and Company.
- *CREW, HELEN C. Saturday's Children. Little, Brown & Company.
- HALL, MAY EMERY. Dutch Days. Dodd, Mead & Company.
- LAGERLÖF, SELMA. The Wonderful Adventures of Nils (Sweden). Doubleday, Doran & Company, Inc.
- McDONALD, ETTA BLAISDELL. Colette in France. Little, Brown & Company.
- McDONALD, ETTA B., and DALRYMPLE, JULIA. Marta in Holland; Gerda in Sweden. Little, Brown & Company.
- *MICHAELIS, KARIN. Bibi, a Little Danish Girl. Doubleday, Doran & Company, Inc.
- *MILLER, ELIZABETH C. Children of the Mountain Eagle (Albania). Doubleday, Doran & Company, Inc.
- MORLEY, MARGARET WARNER. Donkey John of the Toy Valley (Austrian Tyrol). A. C. McClurg and Company.
- PERKINS, LUCY FITCH. The Dutch Twins; The Swiss Twins. Houghton Mifflin Company.
- *SPYRI, JOHANNA. Heidi; Moni the Goat Boy and Other Stories (Switzerland). Ginn and Company.
- ZWILGMEYER, DIKKEN. Johnny Blossom (Norway). Pilgrim Press.
- *ZWILGMEYER, DIKKEN. What happened to Inger Johanne; Lively Doings of Inger Johanne (Norway). Lothrop, Lee and Shepard Company.

FOOD, CLOTHING, AND HOUSES

- ALLEN, NELLIE B. How and Where we Live. Ginn and Company.
- CARPENTER, FRANK G. and FRANCES. The Houses we Live in. American Book Company.
- CHAMBERLAIN, JAMES F. How we are Fed; How we are Clothed; How we are Sheltered. The Macmillan Company.

WAYS OF TRAVELING

- CHAMBERLAIN, JAMES F. How we Travel. The Macmillan Company.
- DUNHAM, EDITH. Jogging around the World. Frederick A. Stokes Company.
- HEADLEY, E. A. How Other People Travel. Rand McNally & Company.

KEY. ā as in āle; ǎ as in ǎm; ǎ as in senâte; ǎ as in ǎsk; ǎ as in ǎrm; ǎ as in ǎccount; ǎ as in sofá; ē as in ēve; ǎ as in ǎnd; ē as in ǎvent; ē as in makēr; ǎ as in recēt; ī as in īce; ī as in īll; ō as in ōld; ō as in ōdd; ō as in ōbey; ō as in ōrb; ō as in ōft; ō as in cōnnect; ū as in ūse; ū as in ūp; ū as in ūnite; ū as in circŭs; ōō as in fōōd; ōō as in fōōt; ōi as in ōil; ſ as in inſk; th as in then

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